ORIGINAL

Application for a Certificate of Environmental Compatibility

Gila Bend to Ajo
230kV Transmission Line Project

Prepared for:

State of Arizona Power Plant and Transmission Line Siting Committee

Prepared by:

Ajo Improvement Company

Date: _____
Case No. 89

BEFORE THE
POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

In the matter of the Application of Ajo Improvement Company, in conformance with the requirements of Arizona Revised Statutes 40-360.03 and 40-360.06, for a Certificate of Environmental Compatibility authorizing construction of a 230kV single circuit transmission line and substations in Maricopa and Pima counties, Arizona between the Gila Bend Substation west of Gila Bend to the proposed substation near the Phelps Dodge Ajo Incorporated Mine, a distance of approximately 47 miles.

Case No. 89

APPLICATION FOR
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

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INTRODUCTION

Ajo Improvement Company (AIC), a subsidiary of Phelps Dodge Corporation, requests a Certificate of Environmental Compatibility (CEC) for construction of approximately 47 miles of 230 kilovolt (kV) alternating current (AC) transmission line in Maricopa and Pima counties, which would be connected to the existing Gila Bend Substation owned by Arizona Public Service Company (APS) and a proposed substation to be constructed near the Phelps Dodge Ajo Incorporated (PDAI) mine in Ajo (the AIC Substation) (Figure 1). The AIC would own, construct and operate the proposed transmission line and the AIC Substation. The in-service date for the proposed 230kV transmission line and substation is October 1998.

The proposed Gila Bend to Ajo 230kV Transmission Line Project (proposed project) (Exhibit A-1) would provide essential transmission capacity and improved reliability of the electronic power supply available in the area to meet the projected energy demand for the reopening of the PDAI Mine. The proposed project will also benefit the residents and businesses in the Ajo area by eliminating the risk and reliability constraints on Ajo's power supply that would occur if the mine's power supply was integrated into the existing 69kV subtransmission line and by providing a future source of electricity to Ajo and the surrounding region after the mine closes.

The proposed project requires a grant of right-of-way across federal lands. Therefore AIC prepared an environmental assessment (EA) (attached as Exhibit B-2) under the direction of the Bureau of Land Management (BLM) to comply with the National Environmental Policy Act (NEPA) and the Federal Land Policy Management Act. After evaluating all relevant environmental issues associated with the proposed route and various alternatives to the proposed project and route, BLM issued its Finding of No Significant Impact (FONSI) and Decision Record on October 22, 1997 (Exhibit B-1), selecting the route proposed in this application as the environmentally preferred alternative and route choice.

The BLM made its determination after analyzing various issues raised by its interdisciplinary team members and through comments made by the public, selecting the proposed route for the following reasons:

- The proposed route's right-of-way is within a utility corridor established in the Lower Gila Resource Management Plan Environmental Impact Statement (1985). There is an existing 69kV transmission line in the corridor.

- Approximately 42 miles of the proposed 47-mile transmission line route would be located in existing BLM designated utility corridors on BLM administered lands.

- The proposed route is within existing BLM designated utility corridors that conform with existing land use management plans including the BLM's Lower Gila South Management Plan (1985) and BLM's Gila South Resource Management Plan (Goldwater Amendment 1990).

Project Location
Gila Bend to Ajo
230kV Transmission Line Project

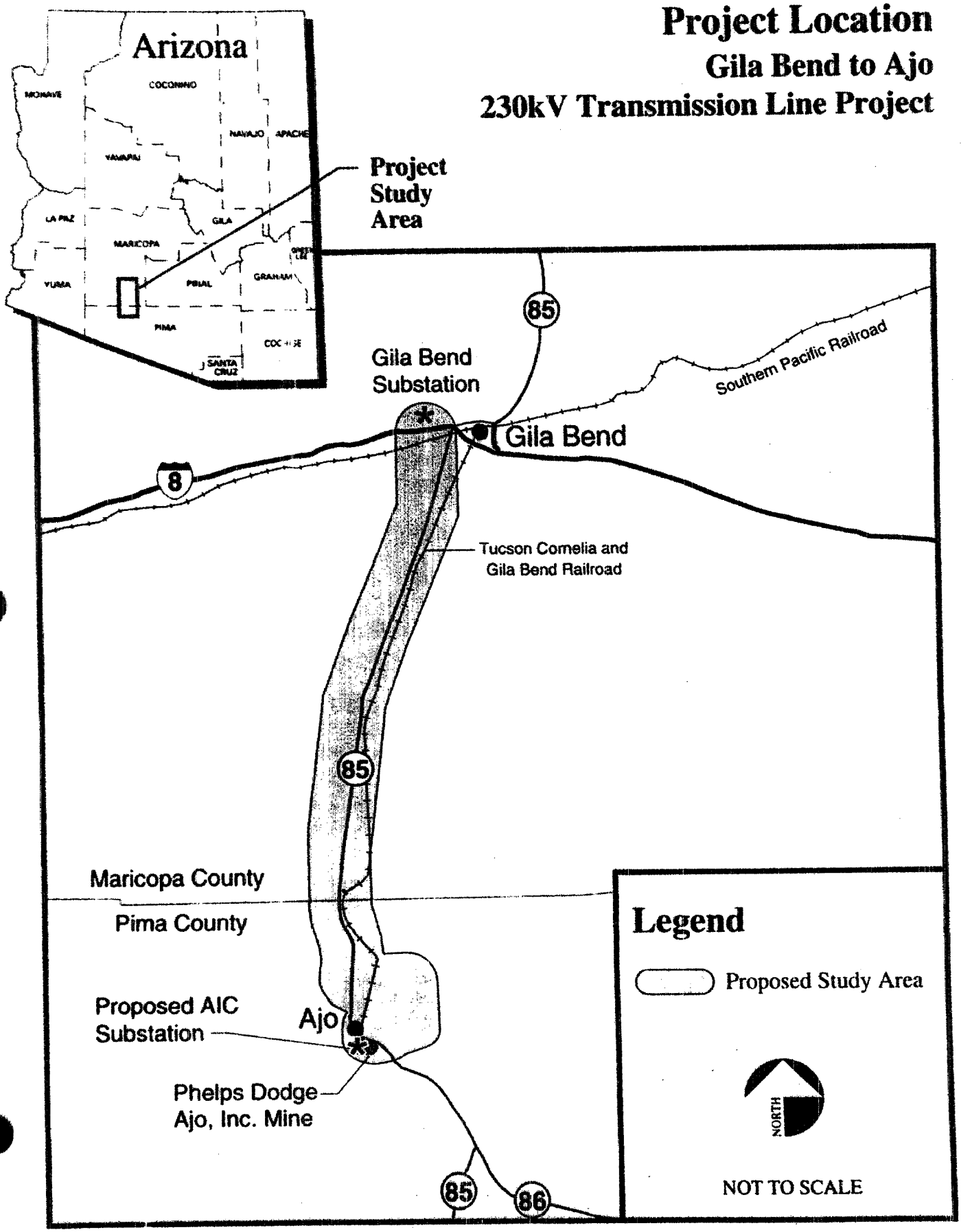

Figure 1

- There will be no significant impacts to any threatened or endangered species. (The U.S. Fish and Wildlife Service (USFWS) concurred in the "no effect" determination.)

- Socioeconomic impacts will be minimal from the construction of the power line. Both Ajo and Gila Bend will gain some economic benefit from the construction of the transmission line.

- None of the five tribes consulted on the project identified any concerns.

The EA analysis:

> "found that these critical elements or concerns are not present or would not be affected by the proposed action: wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields and hazardous and solid waste." (See FONSI Exhibit B-1.)

The BLM ultimately concluded that the route proposed in this application was the preferred alternative because:

> "Through appropriate inventories, data collection and analysis, the interdisciplinary team found no significant direct, indirect or cumulative impacts for land use, visual resources, cultural resources, biological resources including special wildlife and plant species, socioeconomics, earth and soil resources, and air quality and noise. Through analysis and consultation, no Native American concerns were identified for the project or for traditional cultural properties. No low income or minority groups would be disproportionately affected." (See FONSI Exhibit B-1.)

AIC therefore requests approval of its application and believes that the proposed project is the most environmentally compatible route based on the detailed environmental analysis, evaluation of alternatives, agency review, public input, and the BLM's Decision Record for the related EA.

APPLICATION

1. *Name and address of the applicant*:

Ajo Improvement Company
P.O. Drawer 9
Ajo, Arizona 85321

2. *Name, address, and telephone number of a representative of the applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information*:

John H. Zamar
President
Ajo Improvement Company
P.O. Drawer 9
Ajo, Arizona 85321
(520) 387-7451

3. *Date on which the applicant filed a Ten Year Plan in compliance with ARS §40-360.02, in which the facilities for which this application is made were described*:

AIC will submit its ten-year plan in accordance with ARS §40-360.02 by January 31, 1998.

4. *Description of the proposed facilities:*

4.1 With respect to an electric generating plant:

Not applicable.

4.2 Description of the proposed transmission line:

4.2.1 General description:

4.2.1.1 Nominal voltage for which the lines are designed:

230kV AC - single-circuit

4.2.1.2 Description of proposed structures:

The transmission line will be constructed using primarily single wooden pole(s) structures with one 230kV three-phase circuit (three conductors). Wooden poles are being used to match the material of the existing 69kV wood pole subtransmission line located in the same utility corridor. Matching the existing structures will reduce potential visual impacts. In the vicinity of the Ajo Municipal Airport, wooden two-pole H-frame structures with one 230kV three-phase circuit (three conductors) are proposed. Typically, the height of the single pole structures would be approximately 82 feet for tangent structures and 110 feet for dead-end and angle structures. The H-frame structures would be approximately 48 feet high. Pole diameter at grade would be typically 20 inches for tangent structures and 26 inches for dead-end and angle structures.

4.2.1.3 Description of proposed switchyards and substations:

Gila Bend Substation The existing Gila Bend Substation, owned by APS, will be modified to provide improved relaying, improved switching ability, and termination of an additional line(s). This will require additional structures, circuit breakers, buswork, switches, insulators, and a dead-end tower. The existing fence will be expanded to the west by approximately 30 feet to make room for the additional structures and equipment.

AIC Substation The AIC Substation will be a new facility located near the PDAI Mine on PDAI property in Ajo, owned and operated by AIC. The substation layout will accommodate one 230kV line position, up to two 230/46kV transformers, and up to two 46kV line positions. The terminals will be connected into the PDAI Mine Generators.

4.2.1.4 Purpose for constructing said transmission line:

The purpose of the Gila Bend to Ajo 230kV Transmission Line project is to provide economical and reliable power for copper ore mining, milling, and concentrating operations at the PDAI Mine and to enhance reliable power to the area.

Benefits of the proposed interconnection include (1) providing a reliable power supply to the mine operation; (2) providing long-term availability of power to serve needs of Ajo and the region beyond the

life of the mine; (3) eliminating potential capacity constraints on the Ajo community power supply with a direct connection to the existing 69kV line; (4) avoiding need for installation of new and/or refurbishment of existing power generating equipment; (5) no increase in air emissions or water demand from the installation of power generating equipment; (6) least amount of capital, engineering, and construction cost to provide the mine operation with power; and (7) lowest operating and maintenance cost.

4.2.2 General location:

4.2.2.1 Description of the geographic points between which the transmission line will run:

The proposed 230kV transmission line will run between the Gila Bend Substation located west of Gila Bend (Section 3, T6S R5W), and the proposed AIC Substation to be located on PDAI lands in Ajo (Section 23, T12S R6W).

4.2.2.2 Straight line distance between such geographic points:

The straight line distance between the origin and terminus is approximately 40 miles.

4.2.2.3 Length of the transmission line for which application is made:

The approximate length is 47 miles.

4.2.3 Detailed dimensions:

4.2.3.1 Nominal width of right-of-way requested:

AIC is requesting approval of a minimal right-of-way of 100 feet within a general corridor that is 2,000 feet wide. The reference centerline shown on maps in this application is the centerline of the general corridor. The exact location of the alignment for the right-of-way within the corridor will be determined according to right-of-way considerations, site-specific design, and environmental requirements.

4.2.3.2 Nominal length of span:

The transmission line structures would be spaced between 300 and 700 feet apart. Typically, the single pole structures would be spaced

approximately 500 feet apart and the H-frame structures 300 feet apart.

4.2.3.3 Typical height of supporting structures above ground:

40 and 110 feet above the ground line. Typically, the single pole structures would be 82 feet above the ground line and the H-frame structures 48 feet above the ground line.

4.2.3.4 Minimum height of conductor above ground:

23 feet above the ground plane at the maximum operating temperature.

4.2.4 Estimated costs of proposed transmission line:

The preliminary estimate is $9.5 million (in 1997 dollars). This includes equipment, labor, and materials for the 230kV transmission line, proposed substation, substation improvements, engineering, right-of-way, and construction management.

4.2.5 Description of the proposed route:

The proposed route originates at the Gila Bend Substation and proceeds south across Interstate 8 (I-8) and private lands to the State Route 85 corridor paralleling the existing APS 69kV line to the north side of Ajo. The proposed route is located in an existing BLM designated utility corridor for approximately 42 miles or 89 percent of the overall project length. In the BLM's Range Management Plans, corridors are identified to locate existing and future utilities (e.g., pipelines, cables, and transmission lines). These designated corridors are referred to as utility corridors. North of Ajo the proposed transmission line alignment proceeds east from the highway corridor along the Barry M. Goldwater Range (BMGR). The proposed route then turns south and ties into an existing BLM designated utility corridor adjacent to the existing Ajo to Why 69kV subtransmission line. Once the route intersects the Ajo to Why 69kV line, it then parallels the existing Coffee Pot Connection 69kV subtransmission line, also within a designated utility corridor, and proceeds to the proposed AIC Substation (Exhibit A-1).

4.2.6 *Land ownership:*

The proposed route crosses lands in federal (approximately 91 percent, 89 percent in BLM designated utility corridors), and private (9 percent, 5 percent on PDAI Mine lands) ownership. Federal lands include BLM lands and BLM withdrawn lands. Withdrawn lands within the study area are administered by the BMGR. The BLM is responsible for management of the natural resources on the withdrawn lands, but does not own them. A detailed inventory of land ownership status is included in Exhibit A-1 and in the BLM EA prepared for this project (Exhibit B-2).

5 *Jurisdictions:*

5.1 *Areas of jurisdiction (as defined in ARS §40-360) affected by this route:*

The proposed route is within Maricopa (67 percent) and Pima (33 percent) counties, Arizona. The first mile of the northern portion of the proposed route is in the town of Gila Bend. The last two miles of the southern portion of the proposed route and AIC Substation are located in the unincorporated town of Ajo (see Exhibit A-2).

6 *Description of the environmental studies the applicant has performed:*

Under the direction of the BLM, the environmental consulting firm of Dames & Moore, a "third-party contractor," conducted studies that were utilized in preparation of the EA (Exhibit B-2). The proposed route and the alternative route studied are primarily located on lands managed by the BLM Phoenix Field Office (formerly Phoenix Resource Area - Phoenix District).

Public and agency scoping, and environmental inventory and impact assessment were completed for inclusion in the EA. Dames & Moore evaluated land use, visual resources, biological resources, cultural resources, geology, soils, socioeconomics, noise, and air. An evaluation of the existing environment as well as an assessment of potential environmental consequences as a result of this project were completed.

Resources located within the project study area were inventoried by collecting existing data, reviewing published and unpublished literature, aerial photographs and maps, and contacting appropriate agencies and organizations. Field reconnaissance was also conducted. A corridor two miles on each side of the reference centerline (study area) was studied for potential visual resource and land use impacts. Biological and cultural resources were evaluated within the study area for the proposed project. These studies were conducted between October 1996 and April 1997. Detailed cultural surveys were conducted for the

proposed route and a report documenting these findings was sent to the State Historic Preservation Office (SHPO) in April 1997 for review. On September 24, 1997 the SHPO concurred with the assessment and determined that the proposed project will have no adverse effects on historic properties (see Exhibit J-2.8b). A biological evaluation was also completed and reviewed by the U.S. Fish and Wildlife Service (USFWS). The USFWS concurred with the biological evaluation and BLM's determination that the proposed project may affect but is not likely to affect Sonoran pronghorn, lesser long-nosed bat, and cactus ferruginous pygmy owl on September 12, 1997 (see Exhibit J-2.9).

Potential environmental consequences were determined through an impact assessment process that compared the proposed project and the existing environment. Potential impacts were identified and, where effective, mitigation measures were defined that would reduce or eliminate impacts A comprehensive mitigation program will be implemented that includes structure placement, modified structure design, matching existing structure type, nonspecular conductors, overland access, biological monitoring, and cultural resource monitoring and testing. The mitigation measures and standard operating procedures are described in detail in the BLM EA (Exhibit B-2).

The EA was distributed for public comment in April 1997 and the FONSI and Decision Record were issued on October 22, 1997 by the BLM's Phoenix Field Office. The lead federal and state agencies also have provided comment and concurrence for the proposed route (see Exhibit J-2 for public response letters).

The BLM's FONSI states:

> "The EA analyzed issues identified through scoping comments made by the public and interdisciplinary team members. The analysis found that these critical elements or concerns are not present or would not be affected by the proposed action: wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields and hazardous and solid waste.
>
> Through appropriate inventories, data collection and analysis, the interdisciplinary team found no significant direct, indirect or cumulative impacts for land use, visual resources, cultural resources, biological resources including special wildlife and plant species, socioeconomics, earth and soil resources, and air quality and noise. Through analysis and consultation, no Native American concerns were identified for the project or for traditional cultural properties. No low income or minority groups would be disproportionately affected."

Exhibits A, B, C, D, and E of this application contain descriptions and conclusions of the environmental studies. Detailed descriptions of environmental studies for the proposed project are included in the BLM EA (Exhibit B-2).

AIC conducted a public involvement program to identify potential issues and concerns of affected or interested landowners, agencies, organizations, and other individuals. The program included public open house meetings, mailings, and direct contacts. A fact sheet was mailed to interested agencies, organizations, and other individuals describing the proposed project and the time and location of the two public open house meetings. In addition to the fact sheet, notices of the public open house meetings held in Ajo and Gila Bend appeared November 13, 1996 and December 4, 1996 in the *Ajo Copper News* and November 14, 1996 in the *Gila Bend Sun*. Responses from the public that were received at the open house meetings and throughout the comment and appeal period were incorporated into the evaluation of alternatives and selection of the proposed route. A total of 28 responses and a petition of 363 signatures supporting the proposed project were received (see Exhibit J-2 for public response letters). This proactive planning approach was successful in selecting the proposed route.

Ajo Improvement Company

By: _____

John H. Zamar

EXHIBIT A - LOCATION MAP AND LAND USE INFORMATION

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Where commercially available, a topographic map, 1:250,000 scale, showing any proposed transmission line route of more than 50 miles in length and the adjacent area. For routes less than 50 miles in length, use a scale of 1:62,500. If application is made for alternative transmission line routes, all routes may be shown on the same map, if practicable, designated by applicant's order of preference."

Exhibit A-1: Proposed Route, Jurisdiction, and Land Status
Exhibit A-2: Existing Land Use
Exhibit A-3: Future and Planned Land Use

Detailed land use information is also described in the BLM EA prepared for this project located in Exhibit B-2, under separate cover.

Exhibits A-1, A-2, and A-3 are included in this section in reduced size (pockets). A copy of Exhibit A-1 at a larger scale (1:62,500), which shows the proposed route, jurisdiction, and land status, is enclosed at the end of this document.

LAND USE

The jurisdictions within the study area are shown in Exhibit A-2. The proposed route crosses approximately 42.8 miles of federal lands and 4.2 miles of lands held in private ownership (note: actual distance may vary based upon the final survey of the route alignment). Federal lands include BLM lands and BLM withdrawn lands, which have land and natural resources managed by the BLM, Phoenix Field Office (Phoenix Resource Area). Unincorporated private lands are under the jurisdiction of Maricopa and Pima counties. The private lands are located in the northern and southern portions of the study area.

The majority of the study area is undeveloped and is on the BMGR. Existing land uses at the northern end of the study area near Gila Bend include irrigated/fallow farm land, rural residences, and the Gila Bend Air Force Auxiliary Field. As the route extends south through the BMGR, land uses within the study area include air and ground military maneuvers, closed airfields, munitions storage sites, and target approach corridors. At the southern end of the study area near Ajo, land uses include residential, commercial, public/quasi-public, and industrial areas. The runway approach to the Ajo Airport is within ½ mile from the proposed route. The proposed project complies with Federal Aviation Administration regulations, although the airport manager has requested that AIC use shorter structures adjacent to the runway. PDAI owns the Ajo Mine facilities and associated properties that are at the southern end of the study area. Approximately 89 percent (42 miles) of the

proposed route is located within existing utility corridors (one mile in width), designated in BLM's *Lower Gila South Resource Management Plan and Environmental Impact Statement* (1985). No right-of-way is anticipated to be required across any existing residential areas. The nearest residences are approximately ½ mile away from the centerline of the proposed route as shown in Exhibit A-2.

General or master plan documents of Gila Bend and Ajo depict the planned land uses and developments as envisioned by each jurisdiction. Leaving the Gila Bend Substation, Link 10 would parallel the existing Gila Bend to Ajo 69kV transmission line and the State of Arizona Power Plant and Transmission Line Siting Committee approved Santa Rosa to Gila Bend 230kV transmission line corridor. The first mile of the proposed project would also pass through an area designated in the Town of Gila Bend Master Plan as light industrial and low density residential. The Ajo Area plan was developed by the Pima County Zoning Department and depicts the future uses of the southern portion study area as light industrial, low density residential, and business. There were no specific planned developments located in the study area.

Potential Effects

Construction of the transmission line would not conflict with existing or planned land uses. The majority of the proposed route would be constructed parallel to linear features such as existing and approved power lines, railroads, highways, and within BLM designated utility corridors. All construction vehicle movement outside of the right-of-way will be restricted to predesignated access, contractor acquired access, or public roads. Fences or gates, if damaged or destroyed by construction activities, will be repaired or replaced to their original predisturbed condition as required by the landowner or the land-management agency (see the BLM EA (Exhibit B-2) for a description of mitigation measures and standard operating procedures).

OVERSIZED

DOCUMENT

Map

Exhibit A-1

SEE SUPERVISOR
(EXHIBIT CABINET)

OVERSIZED

DOCUMENT

Map

Exhibit A-2

SEE SUPERVISOR
(EXHIBIT CABINET)

OVERSIZED

DOCUMENT

Map

Exhibit A-3

SEE SUPERVISOR
(EXHIBIT CABINET)

EXHIBIT B - ENVIRONMENTAL REPORT

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any federal agency or if a federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as part of this exhibit."

The BLM's Decision Record and FONSI are included as Exhibit B-1.

Under the direction of the BLM, the environmental consulting firm of Dames & Moore, a "third-party contractor," conducted studies that were utilized in the preparation of the EA enclosed under separate cover as Exhibit B-2.

EXHIBIT B-1
BLM FONSI AND DECISION RECORD

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099

In reply refer to:
2800(020)
AZA-29804

October 22, 1997

Dear Interested Party:

The Bureau of Land management has determined that a right-of-way will be issued for the 230kV transmission line from Gila Bend to Ajo, Arizona as described in the Proposed Action Alternative A of the Environmental Assessment prepared in April, 1997. Enclosed is a copy of The Decision Record with a copy of the Addendum to the Environmental Assessment, the Finding of No Significant Impacts (FONSI) and Form 1842-1 Information on Appeals and Standards for Obtaining a Stay.

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days of the date of this decision. The appellant has the burden of showing that the decision appealed from is in error. Appeals received by facsimile will not be accepted.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2804.1 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the enclosed Standards for Obtaining a Stay. Copies of the notice of appeal and the petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

If you should have any questions about these procedures please contact David Redmond (602-580-5527).

Sincerely,

Michael A. Taylor
Field Manager

Enclosures

Rediscover Your Public Lands

DECISION RECORD

EA No. AZ-020-97-049

Related No. AZA-29804

Decision: The applied for right-of-way for the Gila Bend to Ajo 230kV transmission line as discussed in the Proposed Action Alternative A, will be granted. Impacts for Alternative A and B are very similar, however, Alternative A has less visual impacts and will be farther from existing residences.

Rationale for Decision:

The applied for right-of-way is within a utility corridor that was established in the Lower Gila Resource Management Plan EIS. There is an existing 69kV transmission line in the corridor.

A Finding of No Significant Impacts (FONSI) resulted from the evaluation of the Proposed Action Alternative A in an environmental assessment.

The proposed right-of-way is within the Barry M. Goldwater Range. To meet concerns of the U.S. Air Force, visual markers will be placed on the wires in accordance with Federal Aviation Administrations regulations.

There will be no significant impacts to any Threatened or Endangered species. The U.S. Fish and Wildlife Service concurred on the "no effect " determination.

Socioeconomic impacts will be minimal from the construction of the power line. Both Ajo and Gila Bend will gain some economic benefit from the construction of the transmission line.

The State Historic Preservation Officer provided concurrence on the survey, eligibility determination and mitigation for cultural resources.

Five tribes were consulted on the project impacts no concerns were identified.

Stipulations:

The Ajo Improvement Company will provide a wildlife biologist monitor, who will arrive at least one hour before construction crews and will remain on site for the entire day. If Pronghorn Antelope are observed no construction activities will take place until the Pronghorn move off to a distance that they will not be disturbed by the construction noise.

A qualified biologist with a State of Arizona permit will sweep the areas of construction looking for desert tortoise. If any desert tortoise are found to be in harms way the biologist will follow the Arizona Game and Fish protocols for moving desert tortoise.

Visual marker will be placed on the wires from the Range 1 gate to a point 2 miles north of Range 2. The markers will conform with the Federal Aviation Administration regulations.

All stipulations provided in the environmental assessment in Table E-1 will be attached to the right-of-way grant.

Phoenix Field Office Manager

Date: 10/22/97

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Name and Number: ENVIRONMENTAL ASSESSMENT FOR THE GILA BEND TO AJO 230kV TRANSMISSION LINE PROJECT, EA No. AZ-020-97-049

BLM Office: Phoenix Field Office

Finding of No Significant Impact:

I have reviewed the Gila Bend to Ajo 230kV Transmission Line (Right-of-Way Application) Environmental Assessment and I have determined that the Proposed Action will have no significant impact on the human environment. An environmental impact statement (EIS) is not required.

The ROW is consistent with utility corridors designated in the Lower Gila South Resource Management Plan (1987), Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and the Natural Resources Management Plan for Luke Air Force Range (1986). Approximately 89% of the proposed transmission line would be constructed within this corridor.

The EA analyzed issues identified through scoping comments made by the public and interdisciplinary team members. The analysis found that these critical elements or concerns are not present or would not be affected by the proposed action: wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields and hazardous and solid waste.

Through appropriate inventories, data collection and analysis, the interdisciplinary team found no significant direct, indirect or cumulative impacts for land use, visual resources, cultural resources, biological resources including special wildlife and plant species, socioeconomics, earth and soil resources, and air quality and noise. Through analysis and consultation, no Native American concerns were identified for the project or for traditional cultural properties. No low income or minority groups would be disproportionately affected.

Determination of Finding: _____ 10/15/97
Lands & Minerals Group Administrator — Date

Approved of Finding: _____ 10/23/97
Phoenix Field Office Manager — Date

EXHIBIT B-2
BLM ENVIRONMENTAL ASSESSMENT
(enclosed under separate cover)

EXHIBIT C - AREAS OF BIOLOGICAL WEALTH

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state effects, if any, the proposed facilities will have thereon."

BIOLOGICAL WEALTH

Special status plant and wildlife species likely to occur in the project area were identified by the USFWS, Arizona Game & Fish Department (AGFD), and BLM. Special status species are those species which are declining in number throughout their range and for which specific threats to existing populations or habitat have been identified. State and federal agencies maintain lists of such species to ensure their inclusion in assessing the effects of proposed projects. Table C-1 presents the special status species potentially occurring within the region, listed by both common and scientific name, habitat association, and status.

Four species listed by the USFWS as endangered that may occur in the project area are Sonoran pronghorn, lesser long-nosed bat, American peregrine falcon, and cactus ferruginous pygmy-owl. The nearest recorded observation of an individual pronghorn is located approximately five miles west of the southern end of the project area. Although within the projected geographic range of the lesser long-nosed bat, there are no known roosting or maternity sites within the project area, nor are there any records of this species foraging between Ajo and Gila Bend despite the presence of columnar cacti upon which the bat feeds. Transient peregrine falcons have been infrequently sighted throughout the area. Cactus ferruginous pygmy-owls are known to inhabit dense microphyll habitat along drainages in Organ Pipe Cactus National Monument, located 25 miles south of the project area.

Special status species not listed as threatened or endangered by the USFWS that have protective status from either the BLM or state of Arizona are described below. The BLM has categorized habitat for the Sonoran desert tortoise, a wildlife species of concern in Arizona, in the White Hills and the Crater Range. Although no tortoises have been observed along Highway 85 in the project area, they are known to occur in the rocky habitats of the Crater Range.

Other special status species for which suitable habitat exists in the study area, but which have not been documented as being present, include the Sonoran green toad and Harris' hawk monitored by the AGFD, sandpaper bush and copper leaf listed as sensitive plant species by the BLM, and Acuña cactus protected by the Arizona Native Plant Law (ANPL). The ANPL also extends protection to the Smoketree which does occur along some major washes in the project area. The ANPL is administered by the State Department of Agriculture.

Potential Effects

Construction of the proposed transmission line and substations should not have any adverse impacts on federally listed threatened or endangered species nor should any habitat for such species be lost or seriously degraded. Detailed discussions of federally listed threatened or endangered and special status species are located in the BLM EA, Chapter 4 (Exhibit B-2).

BLM conducted a separate biological evaluation for Sonoran pronghorn, Sonoran desert tortoise, and cactus ferruginous pygmy-owl. The USFWS review and concurrence of the biological evaluation are documented in a letter located in Exhibit J-2. Sonoran pronghorn have reportedly been observed within one mile of the study area. These large mammals are mobile and could avoid the area during construction. Construction would be suspended if Sonoran pronghorn enter the construction area. Desert tortoise are known to be present at the Crater Range and are active in the spring and summer months following periods of precipitation. A biologist would be present during construction to ensure that no tortoises or Sonoran pronghorn are present in the construction area. Handling protocol approved by AGFD would be followed when moving an individual tortoise from the construction area. No net loss to the quality and quantity of the desert tortoise habitat is anticipated.

In response to comments by the USFWS, surveys for cactus ferruginous pygmy-owl were conducted along Tenmile and Midway washes. No pygmy-owls were detected during these surveys, and habitat along both washes was rated as poor to marginal. Consequently, loss of occupied or high quality habitat will not occur as a result of construction of the project.

No populations of special status plant species are known to be present along the proposed alignment. Three species with potential for occurring in the Crater Range are sandpaper plant, copperleaf, and Acuña cactus. Numerous other species in the area are protected by the ANPL. If species protected by the ANPL are likely to be destroyed by a proposed action, notice must be sent to the Department of Agriculture prior to construction. If located in the construction area, these plants would be avoided where practicable.

TABLE C-1
SPECIAL STATUS WILDLIFE AND PLANT SPECIES
Special status wildlife and plant species potentially occurring along the proposed Gila Bend to Ajo 230kV Transmission Line Project

KEY: FED = Federal Protective Status
- E = Endangered
- PE = Proposed Endangered
- T = Threatened
- C = Candidate for Listing
- BLM = Bureau of Land Management

AZ = Protective Status in Arizona
- X = Wildlife Species of Concern in Arizona
- M = Monitored by the AGFD Database
- ANPL = Arizona Native Plant Law
- sa = salvage assessed
- hs = highly safeguarded
- sr = salvage restricted

Species		Habitat Type and Species Range in Project Area	Status	
Common Name	Scientific Name		Fed	AZ
MAMMALS				
Lesser Long-nosed Bat	*Leptonycteris curasoae yerbabuena*	mines, caves, and tunnels, desertscrub with century plants (agave) and large cactus; Pima, Maricopa, and Pinal counties	E	X
California Leaf-nosed Bat	*Macrotis californicus*	caves, mine tunnels of desertscrub habitats; western and southern Arizona		X
Sonoran Pronghorn	*Antilocapra americana sonoriensis*	Sonoran desert flatlands; southwestern Arizona	E	X
BIRDS				
American Peregrine Falcon	*Falco peregrinus anatum*	cliffs and steep terrain, near water or woodlands with an abundant prey base; may occur as a migrant in spring and fall	E	X
Harris' Hawk	*Parabuteo unicinctus*	Sonoran Desert flatlands of paloverde, mesquite, ironwood, and saguaro; Pima and Maricopa counties		M
Cactus Ferruginous Pygmy-owl	*Glaucidium brasilianum cactorum*	saguaro forests, forested riparian areas, desert washes; central and south-central Arizona	E	X
REPTILES AND AMPHIBIANS				
Desert Tortoise - Sonoran population	*Gopherus agassizii*	Sonoran desertscrub, primarily mixed paloverde-cactus scrub; eastern and southern Arizona		X

TABLE C-1
SPECIAL STATUS WILDLIFE AND PLANT SPECIES
Special status wildlife and plant species potentially occurring along the proposed Gila Bend to Ajo 230kV Transmission Line Project

KEY: FED = Federal Protective Status
- E = Endangered
- PE = Proposed Endangered
- T = Threatened
- C = Candidate for Listing
- BLM = Bureau of Land Management

AZ = Protective Status in Arizona
- X = Wildlife Species of Concern in Arizona
- M = Monitored by the AGFD Database
- ANPL = Arizona Native Plant Law
- sa = salvage assessed
- hs = highly safeguarded
- sr = salvage restricted

Species		Habitat Type and Species Range in Project Area	Status	
Common Name	Scientific Name		Fed	AZ
Sonoran Green Toad	*Bufo retiformis*	mesquite grassland and creosote bush desertscrub		M
PLANTS				
Smoketree	*Psorothamnus (=Dalea) spinosa*	locally dominant along large washes; known near Gila Bend		ANPL sa
Sandpaper Bush	*Petalonyx linearis*	sandy soils; Crater Range	BLM	
Copperleaf	*Acalypha californica*	locally abundant on rocky slopes; Quiotoa and Ajo mountains, Organ Pipe Cactus New Mexico	BLM	
Acuna Cactus	*Echinomastus erectocentrus var. acunensis*	open slope, rocky hills, in creosote bush scrub habitats; Crater Range and vicinity of Ajo mine pit	C	ANPL hs
Organ Pipe Cactus	*Stenocereus thurberi*	slopes and plains; southwestern Arizona, Baja, and Mexico		ANPL sr

Source: AGFD 1996a,b; Benson 1982; BLM 1996b; Hoffmeister 1986; Turner et al. 1995; USFWS 1996

EXHIBIT D - BIOLOGICAL RESOURCES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"List the fish, wildlife, plant life and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, other proposed facilities will have thereon."

Tables D-1, D-2, D-3, and D-4 contain lists of plant life, mammals, birds, and reptiles and amphibians species potentially in the vicinity of the project area.

VEGETATION

Potential Effects

Impacts to vegetation are anticipated to be low along the proposed route where there is existing disturbance from the existing 69kV subtransmission line and access roads. In the Crater Range, there may be some loss of grasses and shrubs during construction. Quilotosa and Tenmile washes will be spanned to avoid the loss of denser vegetation associated with these drainages. There would be some loss of vegetation along the southern portion of the route east of Ajo, but the impacts would be low because of the low sensitivity of creosote bush-bursage associations.

WILDLIFE

Potential Effects

Wildlife populations in the area consist of characteristic assemblages of species associated with Sonoran desertscrub habitats. Impacts to wildlife would be short term and temporary, lasting only during the construction period. Permanent loss of habitat would be minimal and associated primarily with structure sites.

Direct mortality to and loss of habitat for small mammals and reptiles could occur during construction. Ground clearing for structure placement could result in the removal of habitat including nesting or burrowing areas, thermal cover, and food sources (e.g., seed sources, food plants, or prey species). Most small animals are not highly mobile in the sense of being able to temporarily abandon an area. Additionally, many are nocturnal or fossorial and subject to being crushed in their burrows or cover sites by heavy equipment. There is also potential for direct mortality along travel routes resulting from vehicle-animal collisions. Structures that offer perch sites for raptors are not likely to result in increased avian predation since there are existing structures in place.

Mule deer, coyotes, and javelina are mobile and are likely to avoid the area during construction. No important seasonal habitat or birthing areas are present within the study area.

TABLE D-1
SONORAN DESERTSCRUB
Characteristic species of Sonoran desertscrub within the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

SPECIES	
Common Name	**Scientific Name**
TREES	
Crucifixion-thorn	*Canotia holacantha*
Blue Paloverde	*Cercidium floridum*
Foothill Paloverde	*C. microphylla*
Desert Willow	*Chilopsis linearis*
Ironwood	*Olneya tesota*
Mesquite	*Prosopis velutina*
SHRUBS	
Catclaw	*Acacia greggii*
Agave	*Agave spp.*
White Bursage	*Ambrosia dumosa*
Triangle-leaf Bursage	*A. deltoidea*
All scale	*Atriplex polycarpa*
Desert Broom	*Baccharis sarathroides*
Desert Senna	*Cassia covesii*
White Brittlebush	*Encelia farinosa*
Joint-fir	*Ephedra funerea*
Rough Joint-fir	*E. nevadensis*
Desert Buckwheat	*Eriogonum deserticola*
Little Trumpet	*E. trichopes*
Ocotillo	*Fouquieria splendens*
Snakeweed	*Gutierrezia microcephala*
Cheesebrush	*Hymenoclea salsola*
White Ratany	*Krameria gray*
Little-leaved Ratany	*K. parviflora*
Creosote Bush	*Larrea tridentata*
Anderson Thornbush	*Lycium andersonii*
Russian Thistle	*Salsola iberica*
Desert Globemallow	*Sphaeralcea ambigua*
Trixis	*Trixis californica*

TABLE D-1
SONORAN DESERTSCRUB
Characteristic species of Sonoran desertscrub within the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

SPECIES	
Common Name	**Scientific Name**
CACTUS	
Saguaro	*Cereus gigantea*
Desert Coryphantha	*Coryphantha vivipera var. desertii*
Engelman Hedgehog	*Echinocereus engelmanii*
Barrel Cactus	*Ferocactus wislizenii*
Mammillaria	*Mammillaria spp.*
Buckhorn Cholla	Opuntia acanthocarpa
Prickly Pears	O. spp.
GRASSES AND FORBS	
Sand-verbena	*Abronia spp.*
Fiddleneck	*Amsinckia tesellata*
Three-awn	*Aristida spp.*
Milk-vetch	*Astragalus spp.*
Spiderling	*Boerhaavia spp.*
Black Mustard	*Brassica tournefortii*
Red Brome	*Bromus rubens*
Desert Senna	*Cassia armata*
Cryptantha	*Cryptantha sp.*
Fluff Grass	*Erioneuron pulchellum*
Filaree	*Erodium cicutarium*
Large-flowered Heron's Bill	*E. texanum*
Spurges	*Euphorbia spp.*
Sixweeks Fescue	*Festuca octoflora*
Big Galleta	*Hilaria rigida*
Lupine	*Lupinus sp.*
Bush Muhly	*Muhlenbergia porteri*
Arabian Grass	*Schismus arabicus*

TABLE D-2
BIRDS
Checklist of birds most likely to occur in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

KEY:

P/O = Probability of Occurrence in study area	**H = High**	**M= Moderate**	**L = Low**
S/O = Season of Occurrence in study area	**R = Resident**	**T = Transient**	**W = Winter**
*** Probably breeds in or near study area**	**Sp = Spring**	**Su = Summer**	**F = Fall**

Common Name	Scientific Name	P/O - P/S
PODICIPEDIFORMES		
Eared Grebe	*P. nigricollis*	M; T
PELECANIFORMES		
Double-crested Cormorant	*Phalacrocorax auritus*	L; T
CICONIIFORMES		
Great Blue Heron	*Ardea herodias*	L;T
Snowy Egret	*Egretta thula*	L; T
Black-crowned Night-heron	*Nycticorax nycticorax*	L; T,W
White-faced Ibis	*Plegadis chihi*	L;T
ANSERIFORMES		
Green-winged Teal	*Anas crecca*	L; T,W
Mallard	*A. platyrhynchos*	L; T,W
Northern Pintail	*A. acuta*	L; T
Cinnamon Teal	*A. cyanoptera*	L; T,Sp
Northern Shoveler	*A. clypeata*	L; T,W
American Wigeon	*A. americana*	L; T
Lesser Scaup	*A. affinis*	L; T,F
Ruddy Duck	*Oxyura jamaicensis*	L; T,F
FALCONIFORMES		
Turkey Vulture	*Cathartes aura*	H; Su*
Cooper's Hawk	*Accipiter cooperii*	L; T
Harris' Hawk	*Parabuteo unicinctus*	M; M*
Red-tailed Hawk	*B. jamaicensis*	H; R*
Golden Eagle	*Aquila chrysaetos*	L; W
Crested Caracara	*Polyborus plancus*	L; R
American Kestrel	*Falco sparverius*	H; R*
Merlin	*F. columbarius*	L; W
Prairie Falcon	*F. mexicanus*	L; R*

TABLE D-2
BIRDS
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KEY:

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*** Probably breeds in or near study area** — **Sp = Spring** — **Su = Summer** — **F = Fall**

Common Name	Scientific Name	P/O - P/S
	GALLIFORMES	
Gambel's Quail	*Callipepla gambelii*	H; R*
	CHARADRIIFORMES	
Black-bellied Plover	*Pluvialis squatarola*	L;T,Sp,F
Snowy Plover	*Charadrius alexandrinus*	L;T
Killdeer	*C. vociferus*	M;R
Mountain Plover	*C. montanus*	L;M,W
Black-necked Stilt	*Haematopus mexicanus*	L;T
American Avocet	*Recurvirostra americana*	L:T,W
Solitary Sandpiper	*T. solitaria*	L
Spotted Sandpiper	*Actinis macularia*	L; T,W
Western Sandpiper	*Calidris mauri*	L; T,F
Least Sandpiper	*C. minutilla*	L; T,F
Wilson's Phalarope	*Phalaropus tricolor*	L; T
Black Tern	*Chelidonias niger*	L; T
	COLUMBIFORMES	
Rock Dove	*Columba livia*	H; R*
White-winged Dove	*Zenaida asiatica*	H; Su*
Mourning Dove	*Z. macroura*	H; R*
Inca Dove	*Columbina inca*	H; R*
	CUCULIFORMES	
Greater Roadrunner	*Geococcyx californicus*	H; R*
	STRIGIFORMES	
Barn Owl	*Tyto alba*	M; R*
Western Screech-owl	*O. kennicottii*	H; R*
Great Horned Owl	*Bubo virginianus*	H; R*
Ferruginous Pygmy-owl	*G. brasilianum*	L; R
	CAPRIMULGIFORMES	
Lesser Nighthawk	*Chordeiles acutipennis*	H; R
Common Poorwill	*Phalaenoptilus nuttallii*	H;S*

TABLE D-2
BIRDS
Checklist of birds most likely to occur in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

KEY:

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S/O = Season of Occurrence in study area	**R = Resident**	**T = Transient**	**W = Winter**
*** Probably breeds in or near study area**	**Sp = Spring**	**Su = Summer**	**F = Fall**

Common Name	Scientific Name	P/O - P/S
	APODIFORMES	
White-throated Swift	*Aeronautes saxatilits*	M; Su,W
Black-chinned Hummingbird	*Archilochus alexandri*	M; T,Su*
Anna's Hummingbird	*Calypte anna*	M; T,Wi*
Costa's Hummingbird	*Archilochus costae*	M; W*
	PICIFORMES	
Gila Woodpecker	*M. uropygialis*	M; R*
Ladder-backed Woodpecker	*Picoides scalaris*	M; R*
Northern Flicker	*Colaptes cafer*	H;W
Gilded Flicker	*C. auratus*	H;R*
	PASSERIFORMES	
Tyrannnid [illegible] - Tyrant Flycatchers		
Western Flycatcher	*E. difficilis*	L; T
Black Phoebe	*Sayornis nigricans*	M; R
Say's Phoebe	*S. saya*	M; R*
Ash-throated Flycatcher	*M. cinerascens*	H; Su*
Brown-crested Flycatcher	*M. tyrannulus*	M; Su*
Western Kingbird	*T. verticalis*	H; Su*
Alaudidae - Larks		
Horned Lark	*Eremophila alpestris*	M; R*
Hirudinidae - Swallows		
Purple Martin	*Progne subis*	L; Su
Tree Swallow	*Tachycineta bicolor*	L; W
Violet-green Swallow	*T. thalassina*	L; R
N. Rough-winged Swallow	*Stelgidopteryx serripennis*	M; Su
Cliff Swallow	*Hirundo pyrrhonota*	L; Su*
Corvidae - Jays, Magpies, Crows		
Common Raven	*C. corax*	H; R*

TABLE D-2
BIRDS
Checklist of birds most likely to occur in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

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S/O = Season of Occurrence in study area | R = Resident | T = Transient | W = Winter
* Probably breeds in or near study area | Sp = Spring | Su = Summer | F = Fall

Common Name	Scientific Name	P/O - P/S
Remizidae - Verdins		
Verdin	*Auriparus flaviceps*	H; R*
Troglodytidae - Wrens		
Cactus Wren	*Campylorhynchus brunneicapillus*	H; R*
Rock Wren	*Salpinctes obsoletus*	H; R*
Canyon Wren	*Catherpes mexicanus*	M; R*
Bewick's Wren	*Thryomanes bewickii*	M; R*
Muscicapidae - Muscicapids		
Ruby-crowned Kinglet	*Regulus calendula*	M; T,W
Black-tailed Gnatcatcher	*P. melanura*	H; R*
Mimidae - Mockingbirds, Thrashers, and Allies		
Northern Mockingbird	*Mimus polyglottos*	H; R*
Curve-billed Thrasher	*T. curvirostre*	H; R*
LeConte's Thrasher	*T. lecontei*	L; R*
Ptilogonatidae - Silky-flycatchers		
Phainopepla	*Phainopepla nitens*	H; W*
Laniidae - Shrikes		
Loggerhead Shrike	*Lanius ludovicianus*	H; R*
Sturnidae - Starlings and Allies		
European Starling	*Sturnus vulgaris*	H; R*
Vireonidae - Vireos		
Bell's Vireo	*Vireo bellii*	M; Su
Solitary Vireo	*V. solitarius*	L; T,Sp
Emberizidae - Emberizids		
Common Yellowthroat	*Geothlypis trichas*	L; T,Sp

TABLE D-2
BIRDS
Checklist of birds most likely to occur in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

KEY:

P/O = Probability of Occurrence in study area | **H = High** | **M= Moderate** | **L = Low**
S/O = Season of Occurrence in study area | **R = Resident** | **T = Transient** | **W = Winter**
*** Probably breeds in or near study area** | **Sp = Spring** | **Su = Summer** | **F = Fall**

Common Name	Scientific Name	P/O - P/S
Wilson's Warbler	*Wilsonia pusilla*	M; T
Northern Cardinal	*Cardinalis cardinalis*	H; R*
Pyrrhuloxia	*C. sinuatus*	M; R*
Green-tailed Towhee	*Pipilo chlorurus*	M; W
Canyon Towhee	*P. fuscus*	M; R*
Chipping Sparrow	*Spizella passerina*	L; W
Brewer's Sparrow	*S. breweri*	H; W,Sp
Vesper Sparrow	*Pooecetes gramineus*	L; W
Lark Sparrow	*Chondestes grammacus*	L; W
Black-throated Sparrow	*Amphispiza bilineata*	H; R*
Sage Sparrow	*A. belli*	L; W
Lark Bunting	*Calamospiza melanocorys*	L; W
White-crowned Sparrow	*Zonotrichia leucophyrs*	H; W,Sp
Brewer's Blackbird	*Euphagus cyanocephalus*	L; W
Great-tailed Grackle	*Quiscalus mexicanus*	L; R
Brown-headed Cowbird	*M. ater*	H; T,Su
Hooded Oriole	*Icterus cucullatus*	M; Su
Northern Oriole	*I. galbula*	L; T
Scott's Oriole	*I. parisorum*	M; Su*
Fringillidae - Fringilline and Cardueline Finches		
House Finch	*C. mexicanus*	H; R*
Passeridae - Old World Sparrows		
House Sparrow	*Passer domesticus*	H; R*

Sources: Demaree et al. 1972; Monson and Phillips 1981; Peterson 1990; Phillips et al. 1964; Russell 1990

TABLE D-3
MAMMALS
Checklist of mammals potentially occurring in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

Common Name	Scientific Name
INSECTIVORA - Insectivores	
Desert shrew	*Notiosorex crawfordi*
CHIROPTERA - Bats	
California Leaf-nosed Bat	*Macrotus californicus*
Lesser Long-nosed Bat	*Leptonycteris curosae yerbabuena*
Yuma Myotis	*Myotis yumanesis*
Cave Myotis	*M. velifer*
California Myotis	*M. californicus*
Western Pipistrelle	*Pipistrellus hesperus*
Big Brown Bat	*Eptesicus fuscus*
Southern Yellow Bat	*Lasiurus ega*
Pallid Bat	*Antrozous pallidus*
American Free-tailed Bat	*Tadarida brasiliensis*
Pocketed Free-tailed Bat	*T. femorosacca*
LAGOMORPHA - Rabbits, Hares, Pikas	
Desert Cottontail	*S. audubonii*
Black-tailed Jackrabbit	*Lepus californicus*
RODENTIA - Rodents	
Harris Antelope Squirrel	*Ammospermophilus harrisii*
Rock Squirrel	*Spermophilus variegatus*
Round-tailed Ground Squirrel	*S. tereticaudus*
Botta's Pocket Gopher	*Thomomys bottae*
Arizona Pocket Mouse	*Perognathus amplus*
Bailey's Pocket Mouse	*P. baileyi*
Rock Pocket Mouse	*P. intermedius*
Desert Pocket Mouse	*P. penicillatus*
Banner-tailed Kangaroo Rat	*D. spectabilis*
Merriam's Kangaroo Rat	*D. merriami*
Desert Kangaroo Rat	*D. deserti*
Western Harvest Mouse	*R. megalotis*
Cactus Mouse	*Peromyscus eremicus*
Deer Mouse	*P. maniculatus*
Southern Grasshopper Mouse	*Onychomys leucogaster*
Arizona Cotton Rat	*Sigmodon arizonae*
White-throated Wood Rat	*Neotoma albigula*
Desert Wood Rat	*N. stephensi*
House Mouse	*Mus musculus*

TABLE D-3
MAMMALS
Checklist of mammals potentially occurring in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

Common Name	Scientific Name
CARNIVORA - Carnivores	
Coyote	*Canis latrans*
Kit Fox	*Vulpes macrotis*
Gray Fox	*Urocyon cinereoargenteus*
Badger	*Taxidea taxus*
Western Spotted Skunk	*Spilogale gracilis*
Mountain Lion	*Felis concolor*
Bobcat	*F. rufus*
ARTIODACTYLA - Even-toed Ungulates	
Collared Peccary	*Tayassu tajacu*
Mule Deer	*Odocoileus hemonius*
Sonoran Pronghorn	*Antilocapra americana sonoriensis*
Sources: Burt and Grossenheider 1964; Hoffmeister 1986	

TABLE D-4
REPTILES AND AMPHIBIANS
Checklist of reptile and amphibian potentially occurring in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

Common Name	Scientific Name
TOADS	
Couch's Spadefoot Toad	*Scaphiopus couchi*
Southern Spadefoot Toad	*S. multiplicatus*
Sonoran Desert Toad	*Bufo alvarius*
Great Plains Toad	*B. cognatus*
Sonoran Green Toad	*B. debilis*
Red-spotted Toad	*B. punctatus*
TORTOISES/TURTLES	
Desert Tortoise	*Gopherus agassizi*
LIZARDS	
Desert Banded Gecko	*Coleonyx variegatus*
Chuckwalla	*Sauromalus obesus*
Desert Iguana	*Dipsosaurus dorsalis*
Zebra-tailed Lizard	*Callisaurus draconoides*
Long-nosed Leopard Lizard	*Gambelia wislizenii*
Desert Spiny Lizard	*Sceloporus magister*
Side-blotched Lizard	*Uta stansburiana*
Desert Horned Lizard	*Phrynosoma platyrhinos*
Regal Horned Lizard	*P. solare*
Tree Lizard	*Urosaurus ornatus*
Long-tailed Brush Lizard	*U. graciosus*
Collared Lizard	*Crotaphytus collaris*
Western Whiptail	*Cnemidophorus tigris*
Canyon Spotted Whiptail	*C. burti*
Gila Monster	*Heloderma suspectum*
SNAKES	
Western Blind Snake	*Leptophlops humilis segregus*
Spotted Leaf-nosed Snake	*Phyllorhynchus decurtatus*
Saddled Leaf-nosed Snake	*P. browni*
Coachwhip Sonoran Whipsnake	*Masticophis flagellum* M. bilineatus
Desert Patch-nosed Snake	Salvadora hexalepis
Glossy Snake	Arizona elegans
Gopher Snake	Pituophis melanoleucus
Common Kingsnake	Lampropeltis getulus
Long-nosed Snake	Rhinocheilus lecontei marcianus
Ground Snake	Sonora semiannulata
Banded Sand Snake	Chilomeniscus cinctus
Western Shovel-nosed Snake	Chionactis occipitalis

TABLE D-4
REPTILES AND AMPHIBIANS
Checklist of reptile and amphibian potentially occurring in the vicinity of the proposed Gila Bend to Ajo 230kV Transmission Line Project

Common Name	Scientific Name
Night Snake	*Hypsiglena torquata*
Southwestern Black-headed Snake	*Tantilla hobartsmithii*
Arizona Coral Snake	*Micruroides euryxanthus*
Lyre Snake	*Trimorphodon biscutatus*
Western Diamondback Rattlesnake	*Crotalus atrox*
Speckled Rattlesnake	*C. mitchelli*
Mojave Rattlesnake	*C. scutulatus*

Source: Stebbins 1985

EXHIBIT E - SCENIC AREAS, HISTORIC SITES AND STRUCTURES, ARCHAEOLOGICAL SITES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe any existing scenic areas, historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon."

Exhibit E includes summaries of existing visual and cultural resources, as well as the potential effects the proposed project may have on each resource. For further information refer to the BLM EA (Exhibit B-2).

SCENIC AREAS/VISUAL RESOURCES

The visual resources inventory and assessment included the evaluation of existing visual conditions, scenic quality, and sensitive viewpoints. The inventory and assessment were based on the BLM's 8400 Series Visual Resource Manual and adapted to the specific issues related to the construction and operation of the proposed project.

The project study area consists of landscape characteristics of the Basin and Range physiographic province, which is distinguished by isolated, roughly parallel, north-south trending mountain ranges separated by closed (undrained) basins. There is limited scenic diversity in the basin areas; however, the surrounding ranges provide visual interest and diversity in landforms, vegetation, and color. These landscapes are generally vast and expansive, permitting extensive views and vistas.

There are no predicted significant visual impacts resulting from the proposed project, although visual impacts associated with the construction and operation of the transmission line are expected to be long term, remaining over the life of the project. Visual impacts for this project will be reduced based on the following considerations: (1) the proposed transmission line would parallel existing 69kV subtransmission lines (Link 10 and 60); (2) existing access would be used for construction; (3) similar structure type (wooden single pole) would be used; and (4) nonspecular conductors would be used. In addition, strategic siting combined with the application of mitigation would result in overall residual visual impact levels that are expected to be lower than those typically associated with a 230kV transmission line.

Potential Effects

Scenic Quality

The elements of scenic quality include the character and diversity of landform, vegetation, water, color, and cultural or manmade features. These features become the basis for separating the study area into units which identify the relative scenic value of a landscape. These units are scenic quality Class A (lands of outstanding or distinctive diversity or interest), scenic quality Class B (lands of common or average diversity or interest), or scenic quality Class C (lands of minimal diversity or interest), with A representing the highest and C the lowest scenic value. The majority of the proposed route is located in Class C landscapes represented by flat open desertscrub range. The Crater Range is the only Class A landscape crossed by the proposed route. No Class B landscapes would be traversed by the proposed route. For a detailed description of landscapes encountered along the proposed route refer to Chapter 3 of the EA (Exhibit B-2).

Impacts to scenic quality indicate the change in scenic value of the landscape with the introduction of the proposed project Impacts to scenic quality in the project area would be low to moderate, because (1) the predominance of landscapes with minimal or average scenic quality, (2) the presence of existing linear facilities (e.g., transmission lines, railroads, and highways), and/or (3) the implementation of the following mitigation measures—nonspecular conductors and matching existing structure type.

Moderate impacts to scenic quality would occur along Link 10 in the Crater Range north of Ajo, characterized by jagged volcanic rock outcrops with varied vegetation including saguaro, cholla, paloverde, and creosote bush-bursage. The remaining impacts on scenic quality along the proposed route would be low. Refer to Appendix H of the EA (Exhibit B-2) for a description of visual impacts.

Sensitive Viewpoints

The sensitivity of a viewpoint reflects the degree of public concern for change in the scenic quality of the landscape visible from that location. Sensitivity is measured by evaluating the type of viewpoint and viewer concern for change in the landscape, volume of use, viewing duration, public and agency management concerns, and influence of adjacent land use. Sensitive viewpoints that were identified within the study area included residences, major travel routes, and recreation areas.

Impacts to sensitive viewpoints are anticipated to be low to moderate with the application of mitigation measures that would be effective in reducing the visibility of the proposed project. Mitigation measures that could be implemented to reduce visual impacts include nonspecular conductors, matching existing structure type, and structure placement. The following sections describe the moderate impacts to sensitive viewpoints.

Residences—Residences are considered high sensitivity viewpoints since their occupants have a high concern for change in the landscape and long-term viewing conditions. Moderate impacts to views from residences would occur based on the visibility and proximity (within one mile) of the proposed project to the residences. Potential impacts to residential viewers occur in the following locations:

- south of Gila Bend (Link 10) where the proposed project would be visible approximately ½ to 1 mile away paralleling the west side of the existing 69kV transmission line west of State Route 85.

- north of Ajo (Links 10, 30, and 50) where the proposed project would be visible approximately ½ to 1 mile away east of State Route 85.

Travel Routes—Views from travel routes towards adjacent landscapes are intermittent and short term. Potential moderate impacts to travel routes with moderate sensitivity include views from I-8 (Link 10) occurring where the proposed project would cross the interstate; and views from State Route 85, which parallels the existing 69kV subtransmission line and the proposed project for a majority of the route.

Other Sensitive Viewpoints—Moderate impacts to views from the Arizona Department of Transportation (ADOT) rest areas along State Route 85 are anticipated to occur north and south of Black Gap (Link 10). The proposed project would be located on the west side of State Route 85 adjacent to the rest area north of Black Gap, and across the road from the rest area located south of Black Gap. Site specific locations of transmission line structures will be determined at these locations to reduce potential visual impacts. The proposed project would also cross the Crater Range Special Recreation Management Area (SRMA), north of Ajo (Link 10). The Crater Range SRMA does not have any designated trails or observation areas, and has a provision allowing for overhead transmission lines.

All other impacts to sensitive viewpoints are expected to be low.

CULTURAL RESOURCES

Cultural resources typically are defined to include archaeological sites, buildings, structures, districts, and objects as those property types have been defined in the National Historic Preservation Act (NHPA) as amended. The NHPA and its implementing regulations provide guidance for determining whether cultural resources are of sufficient importance to be determined eligible for listing on the National Register of Historic Places (National Register). Cultural resources can be either prehistoric or historic in age. In the southwest, the break between prehistory and history is understood to have occurred in the sixteenth century when written records were produced by Spanish explorers. To be regarded as historic, properties ordinarily must be at least 50 years old, but younger properties of exceptional importance also are included among cultural resources deemed worthy of consideration under the NHPA.

Traditional cultural properties (TCPs) and sacred sites are included among cultural resources. TCPs (which are addressed in the amended NHPA) are places of special heritage value to contemporary communities (often, but not necessarily, Native American groups) because of their association with the cultural practices or beliefs that are rooted in those community's histories and are important in maintaining the cultural identity of the communities. *National Register Bulletin 38* provides guidelines for evaluating whether TCPs may be eligible for National Register listing.

The cultural resources inventory was accomplished through (1) examination of existing records, (2) intensive pedestrian inventory of areas not previously inventoried, and (3) consultation with Native American groups with potential concerns about the project area. The Native American consultation was conducted by the BLM, and was initiated with letters followed by telephone contacts and meetings by BLM Phoenix Field Office representatives. Contacted groups include the Tohono O'odham Nation, Hia Ced O'odham Alliance, Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, and Hopi Tribe. In addition to Tribal leaders, cultural preservation specialists were contacted where they have been officially designated along with tribal leaders.

An examination of records at the Arizona State Museum, Arizona State University Department of Anthropology, BLM Phoenix Field Office, and Arizona SHPO demonstrated that the ADOT right-of-way proposed for installation of the 230kV transmission line had been intensively inventoried in 1995. Twelve archaeological sites, one property containing aspects of both a site and a structure, and three historic age structures had been recorded as reported by Hathaway (1995) and Rogge and others (1995). Following the records search, an intensive pedestrian inventory was conducted throughout those portions of the proposed route beyond the ADOT right-of-way. Three additional archaeological sites were recorded during that survey. The results of the most recent inventory are documented by Bruder and others (1997) along with a reevaluation of the National Register eligibility of the previously recorded properties and an assessment of the probable effect of the proposed transmission line on those resources. No traditional cultural properties were identified, nor were any concerns about cultural resources expressed by representatives of the six Native American groups contacted. The cultural resources inventory is summarized in Table E-1. BLM and ADOT consultation with the Arizona SHPO pursuant to Section 106 of the NHPA resulted in determinations of eligibility as reported below.

The area of potential effect has been thoroughly inventoried and contains 12 properties determined eligible or potentially eligible for National Register listing (see Table E-1).

Potential Effect

Based on the evaluation of cultural resources, no unavoidable adverse impacts are anticipated, and residual impacts are expected to be negligible.

In considering the potential for the proposed transmission line to affect historic properties, possible physical disturbance as well as visual, auditory, and atmospheric intrusions were considered. Just two determined eligible or potentially eligible properties (the Tucson, Cornelia & Gila Bend Railroad and the remains of the historic Clarkston/Rowood townsite) are valued for characteristics that might be subject to visual, auditory, or atmospheric intrusions. In neither case, however, is the installation of a transmission line regarded as having a significant impact on those attributes because both properties are in areas that already contain transmission lines.

Surface disturbance from heavy equipment and minor subsurface disturbance from pole installation could occur within site boundaries in cases where sites are too large to be spanned. As shown on Table E-1, it appears that significant portions of 7 of the 12 eligible properties can be avoided entirely. Avoidance will be ensured by marking site locations in the field and on construction documents. These properties will be spanned and thus will be avoided during construction except for pedestrian traffic. The construction contractor will be instructed to prevent employees from collecting surface artifacts or otherwise disturbing the properties.

There are five cases where it appears that eligible sites are too large to be spanned along the proposed route. In three of those cases, where the transmission line will be installed adjacent to site perimeters, a professional archaeologist will monitor construction and in the event of a discovery, the contractor would proceed as discussed below for discovery situations. In two cases where the transmission line will be installed through site interiors, archaeological testing will be undertaken prior to construction to gather data and to ensure that subsurface features and deposits are avoided during pole installation. The BLM will issue a permit for this work and conduct appropriate consultation pursuant to the Archaeological Resources Protection Act prior to the field effort.

In the event of an archaeological discovery, the contractor would be required to cease work in the immediate vicinity of the find and take measures to protect the archaeological remains from further intentional or inadvertent disturbance. These measures might include barricading and partial backfilling. The BLM would be notified within 24 hours of a discovery. The BLM archaeologist would then notify the SHPO and Native American groups known to claim affiliation with former inhabitants of aboriginal archaeological sites in the project area. If the discovery pertained strictly to Euroamerican archaeological remains, just the SHPO would be notified. The BLM would consult with the SHPO and tribal representatives regarding appropriate treatment to mitigate the effects of disturbance, with a field visit arranged if necessary. In consideration of AIC's commitment to fund the mitigation measures described herein, pursuant to Section 106 of the NHPA, the BLM has determined the proposed undertaking will have "no adverse effect" on historic properties.

TABLE E-1
CULTURAL RESOURCES WITHIN THE AREA OF POTENTIAL EFFECT OF THE PROPOSED GILA BEND-AJO 230kV TRANSMISSION LINE
(North to South)

Designation	Description	Date	Eligibility Determination*	Required Mitigation**	Anticipated Effect
1 AZ Z:1:37	railroad construction camp	historic	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
2 AZ Z:1:38	artifact scatter	prehistoric/ historic	potentially eligible (D)	avoid entirely (span)	no effect
3 AZ Z:1:34	old SR 85	historic	not eligible	none	not applicable
4 AZ Z:1:36	old telephone line	historic	not eligible	none	not applicable
5 AZ Z:5:58	fire-cracked-rock scatter	prehistoric	not eligible	none	not applicable
6 AZ Z:5:59	lithic scatter	prehistoric	not eligible	none	not applicable
7 AZ Z:5:55	airfield/basecamp	WWII/ prehistoric	determined eligible (A and D)***	avoid surface manifestations and monitor construction	not adverse
8 AZ Z:5:60	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid entirely (span)	no effect
9 AZ Z:5:62	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid entirely (span)	no effect
10 AZ Z:5:63	artifact scatter	historic	potentially eligible (D)	none	no effect
11 AZ Z:5:64	road construction camp	historic	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
12 AZ Z:5:70	artifact scatter	prehistoric	not eligible	none	not applicable
13 AZ Z:9:16	artifact scatter	prehistoric	potentially eligible (D)	avoid entirely (span)	no effect
14 AZ Z:9:17	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
15 AZ Z:9:18	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
16 AZ Z:52 (BLM) AZ Z:1:35 (ASM)	Tucson, Cornelia & Gila Bend Railroad	historic	determined eligible (A and D)	span railroad grade	no effect
17 AZ Z:9:33	lithic scatter with fire-cracked rock	prehistoric	not eligible	none	not applicable
18 AZ Z:9:34	lithic scatter with rock pile	prehistoric	not eligible	none	not applicable
19 AZ Z:9:2	Clarkston/Rowood	historic	potentially eligible (A and D)	none	no effect

* Possible eligibility criteria include A (association with broad historical patterns), B (association with important people), C (importance for artistic or engineering qualities), and D (information potential).

** Determined by the BLM in consultation with the State Historic Preservation Office.

*** The historic airfield, which will not be affected by the proposed transmission line, was determined eligible under A in consultation among the Air Force, BLM, and SHPO; the prehistoric basecamp has been determined eligible under D.

EXHIBIT F - RECREATIONAL PURPOSES AND ASPECTS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations, and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route."

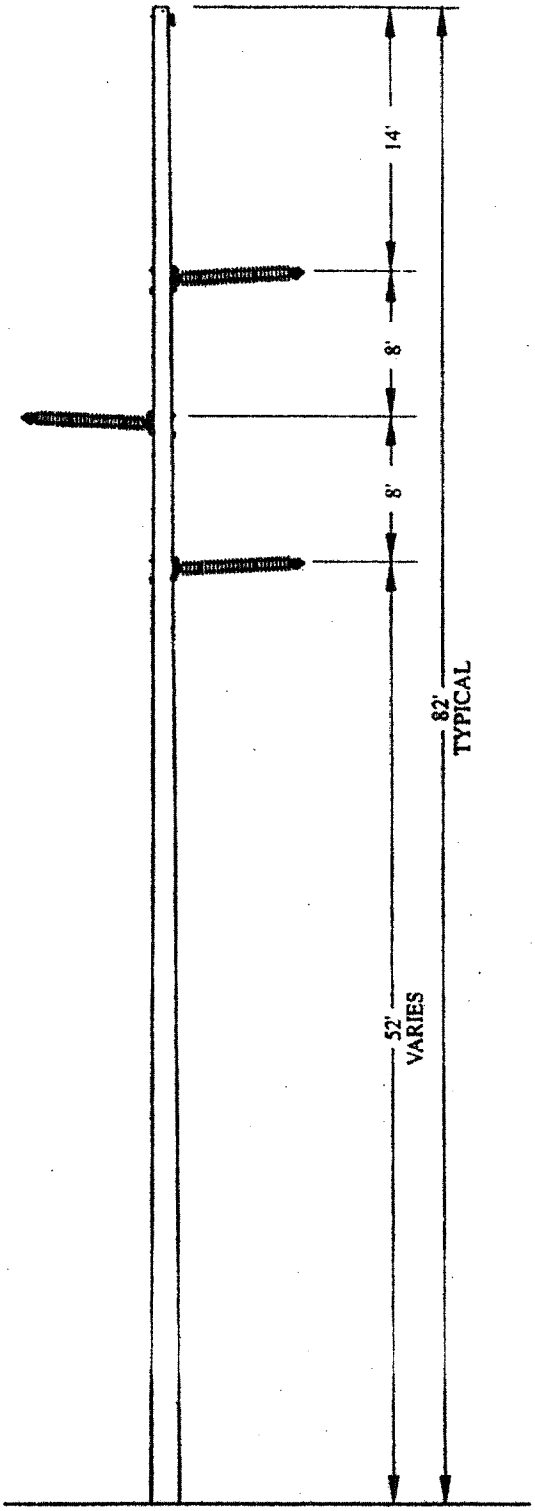
No plans exist at present to develop recreational facilities within the proposed study area; however, if recreational plans are developed at a later date, any multiple-use recreation plan coordinated with the BLM or other agencies that would be consistent with constructing, operating, and maintaining the facilities described herein would be considered.

EXHIBIT G - CONCEPTS OF TYPICAL FACILITIES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Attach any artist's or architect's conception of the proposed plant or transmission line structures and switchyards which applicant believes may be informative to the committee."

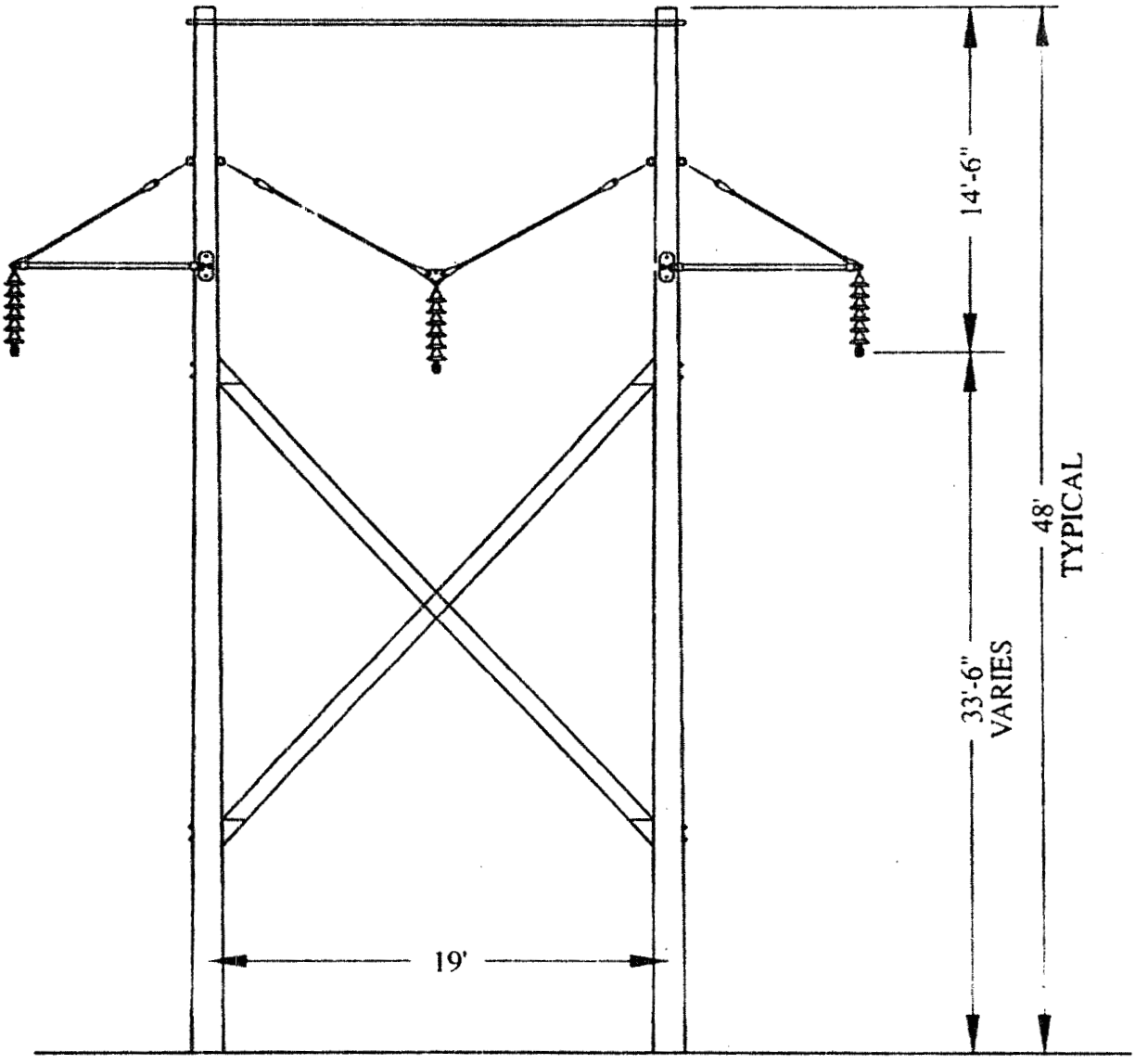
Exhibit G-1: Typical Proposed Single Pole Structure
Exhibit G-2: Typical Proposed H-Frame Structure
Exhibit G-3: AIC Substation



(Structure to be used for the majority of the route)

Typical 230kV Single Wood Pole Structure

Gila Bend to Ajo
230kV Transmission Line Project



(Modified structure to be used in the vicinity of Ajo Municipal Airport)

Typical 230kV Double Wood Pole Structure

Gila Bend to Ajo
230kV Transmission Line Project

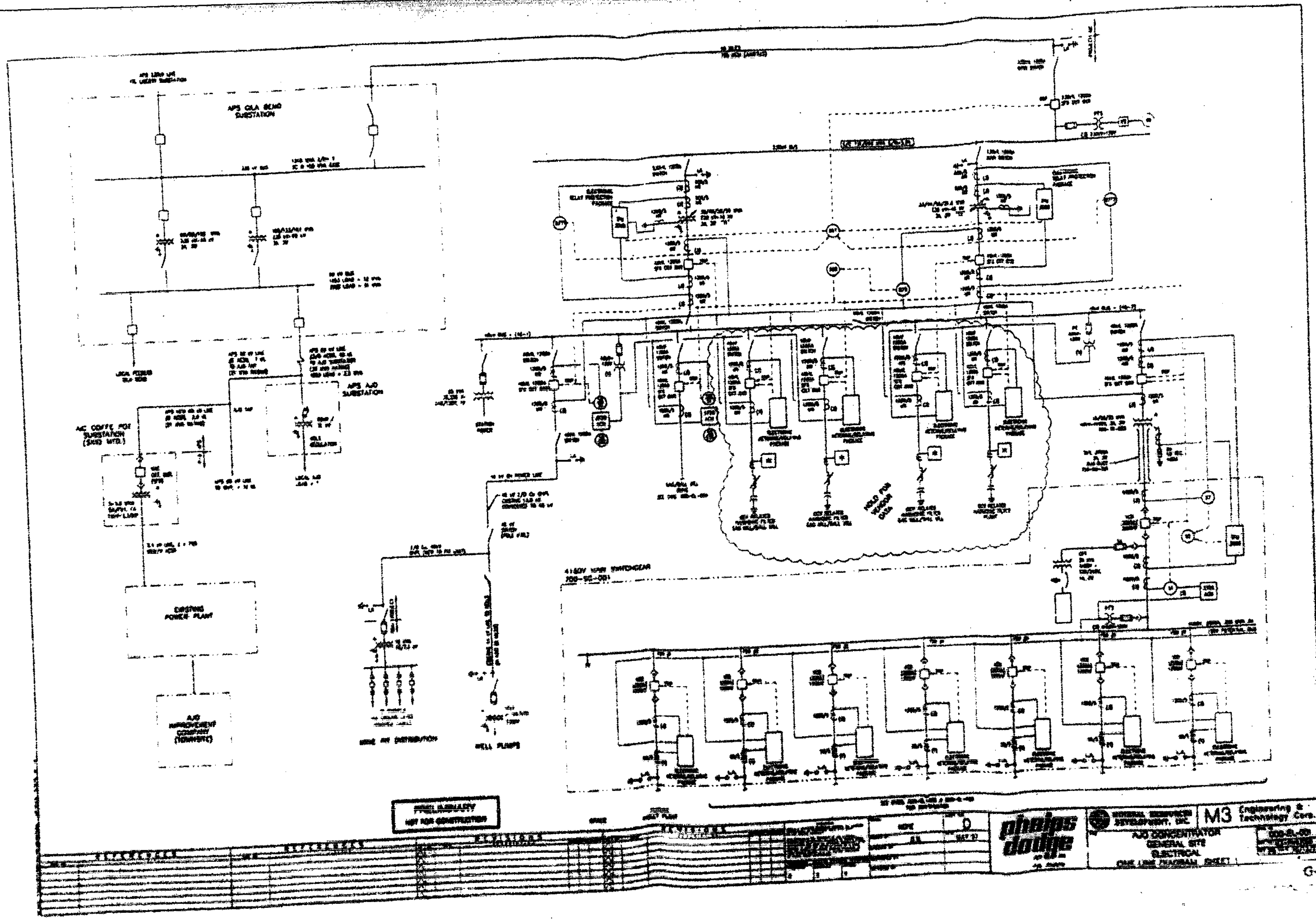

APS GILA BEND SUBSTATION
APS AJO SUBSTATION
AJO COFFE POT SUBSTATION
EXISTING POWER PLANT
AJO IMPROVEMENT COMPANY (TOWNSITE)
MINE PIT DISTRIBUTION
WELL PUMPS
HOLD FOR VENDOR DATA
4160V MAIN SWITCHGEAR
700-SG-001
PRELIMINARY
NOT FOR CONSTRUCTION
REFERENCES
REVISIONS
phelps dodge
M3 Engineering & Technology Corp.
AJO CONCENTRATOR
GENERAL SITE
ELECTRICAL
ONE LINE DIAGRAM SHEET 1

EXHIBIT H - EXISTING PLANS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"To the extent applicant is able to determine, state the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route."

Existing and planned land uses are described in Exhibit A and also in the BLM EA, Chapter 4 (Exhibit B-2). Exhibits A-2 and A-3 depict in detail the existing and future land uses within the project study area. Construction of the transmission line and substations would not conflict with existing or planned developments of government or private entities within the proposed transmission line corridor. The BLM's Decision Record and FONSI are included as Exhibit B-1.

AGENCY AND PUBLIC COORDINATION

A public contact program was conducted for this project to provide information to federal, state, and local government agencies and private entities, solicit information, obtain input, and identify issues relative to the project. A summary of the public open house meetings and Native American consultations, public contact letters, public response letters, meeting and public notices, and the fact sheet are located in Exhibit J.

A list of contacts made as a result of the public contact program follows.

Federal

Bureau of Land Management - Phoenix Field Office
- David Redmond, Project Manager
- John Jamrog, NEPA Compliance, Land Use, and Recreation
- Dave Scarbrough, Recreation
- Steve Markman, Earth and Water Resources
- Tim Goodman, Wildlife Resources
- John Anderson, Vegetation Resources
- Jane Pike Childress, Cultural Resources
- Shela McFarlin, NEPA Compliance/Environmental Justice
- Hector Abrego, Realty and Minerals
- Gina Ramos, Socioeconomics
- Jack Spears, Range

Federal (continued)

Bureau of Indian Affairs
Area Director

Cabeza Prieta National Wildlife Refuge
Bob Schumacher

Federal Aviation Administration
Bud Whitfield, Air Traffic Division

Organ Pipe National Monument,
Harold Smith

Luke Air Force Base
Colonel David L. White

Marine Corps Air Station Yuma
Ron Pearce, Range Management Department

U.S. Border Patrol
Special Agent

U.S. Fish and Wildlife Service
Sam Spiller, State Supervisor, Phoenix

Native Americans

Ak-Chin Indian Community
Martin J. Antone, Chairman
Elain Peters, Cultural Preservation Specialist

Gila River Indian Community
Mary V. Thomas, Governor
Elain Notah, Cultural Preservation Specialist

Hia Ced O'odham Alliance
Lorraine Eiler, Cultural Preservation Specialist

Hopi Tribe
Ferrel H. Secakuku, Chairman
Leigh Jenkins, Cultural Preservation Specialist

Salt River Pima Indian Community
Ivan Makil, President
Ron Chiago, Cultural Preservation Specialist

Tohono O'odham Nation
Edward D. Manuel, Chairman
Joe Joaquin, Cultural Preservation Specialist

State

Arizona Department of Transportation
Leroy Brady, Roadside Development

Arizona Game & Fish Department
Ron Christofferson, Project Evaluation Coordinator, Phoenix
John Kennedy, Habitat Program Manager, Yuma Region

Arizona State Historic Preservation Office
Carol Heathington, Compliance Officer

Arizona State Museum
Sharon Urban, Public Archaeologist

Arizona State University
Michael Barton, File Manager

City and County

Ajo Municipal Airport
Jesse Craft, Airport Manager

City and County (continued)

Maricopa County
Gayln Buchanan, Planning and Development Department

Pima County
Debbie Marchbangs, Development Plans
Mark Trexler, Planning & Zoning
Tina Whitmore, Planning & Zoning
Gary Tuell, Real Property Department

Town of Gila Bend
Chuck Tanner, Mayor
David Howard, Planning Department

Other

Arizona Public Service
Paul Herndon, Planning and Permitting

El Paso Natural Gas
Rudy Markes, Engineering

Friends of the Cabeza Prieta
Paul Haddy

Land and Water Fund
Edward B. Zukoski

Sierra Club, Rincon Group
Gayle Hartman

Southwest Gas Company
Eddie Reyes, Engineering

June D. Marcus
Eric B. Marcus
Kord M. Klinefelter
Carol M. Klinefelter
Henrietta Daniels
Richard E. Daniels

Barbara Silva
Marvin Silva
Bill Broyles

EXHIBIT I - ANTICIPATED NOISE INTERFERENCE WITH COMMUNICATION SIGNALS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities."

ELECTRICAL EFFECTS

The electrical effects of this transmission line are those associated with electric field, magnetic field, and corona. Electric and magnetic fields result in induced voltage on objects near the transmission line. Corona effects are manifested in audible noise (AN), radio interference (RI), and television interference (TVI). The effects will be minimized by line location, line design, and construction practices.

CORONA

Corona is a partial electrical breakdown that results in the transformation of energy into very small amounts of light, sound, radio noise, chemical reaction, and heat. Corona results when the voltage gradient surrounding energized conductors or hardware exceeds the breakdown strength of air, resulting in electrical discharges. Corona is a recognized phenomenon, and it is considered in the design of electrical hardware and equipment. It is more severe during rainy or damp weather, when the breakdown strength of air is reduced.

Corona is not normally a problem on lines of 230kV and below. Little or no corona activity is expected for the Gila Bend to Ajo 230kV Transmission Project.

RADIO AND TELEVISION INTERFERENCE

Overhead transmission lines generally do not interfere with normal radio and television reception. Corona and gap discharges, however, are two potential sources of interference. Corona, as described above, may affect AM radios. Radio interference from corona is not expected to be noticeable.

Gap discharges result from electrical discharges between broken or poorly fitting hardware, such as insulators, clamps, and brackets. The hardware is designed to prevent gap discharges; however, mechanical damage due to wind induced (aeolian) vibration, corrosion, gunshot, or other causes may create a condition where gap discharges can occur. Gaps between contact points on hardware, at which small electrical discharges can occur, are created. This phenomenon can be found on lines of all voltages, and sometimes occurs when "slack" or low tension spans result in insufficient tension

to keep hardware firmly in contact. The discharge across the small gap acts as a low power electrical transmitter and may interfere with some radio and television signals. The stronger the transmitted signals, the higher the quality of the radio or television and its antenna system, and the farther the radio or television is from the gap source, the less it is affected by the gap discharge. Sources of gap discharge are not difficult to locate and can be repaired should they occur. A much more likely source of radio and television interference arises through electrical equipment in the home itself. The line voltage and the distance of prospective line routes from residences minimizes the likelihood of objectionable audible noise, radio interference, or television interference from the line. Should it occur, AIC will record and investigate any complaints of radio and television interference reported, and take corrective action when necessary.

TRANSMISSION LINE AUDIBLE NOISE

Transmission lines can generate a small amount of sound energy. For lines 230kV and below, this can barely be heard during fair weather. During rainy or very moist conditions, drops of water can form on the conductors, resulting in increased corona activity when a crackling or humming sound can be heard near the line. The noise decreases with distance from the line.

Due to the low audible noise level, the relatively few hours of audible noise producing weather, and location of the line with respect to neighboring land uses, no serious problems are anticipated.

ELECTRIC INDUCTION

Electric induction is the capacitive coupling of a voltage onto insulated objects near the transmission line. The induced voltage is a function of line voltage, insulation, object dimensions, and line height. This voltage produces a short circuit when an insulated object is grounded.

The magnitude of the short circuit current is dependent upon the open circuit voltage, resistance of the object to ground, and the impedance of the grounding object. The discharge of this voltage creates an arc similar to that generated by static electricity obtained by a person walking across nylon carpeting.

Electrical effects are not known to be a problem with 230kV transmission lines.

MAGNETIC INDUCTION

Magnetic induction is a result of a current in a conductor coupling voltage into a parallel circuit. The maximum induced voltage occurs when the two circuits are parallel and reduces to a minimum when perpendicular. The parallel circuits may be other power lines, communication circuits, fences, etc.

The induced voltage is a function of the line current, distance from the line, and height of the conductors.

Successful operation of 230kV lines has demonstrated that, with normal grounding procedures, no harmful effects will be encountered from magnetic induction.

EXHIBIT J - SPECIAL FACTORS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application."

PUBLIC INVOLVEMENT IN THE ENVIRONMENTAL STUDY AND SITING PROCESS

The public involvement program for the project entailed federal, state, and local contacts in conjunction with public open house meetings. Public contact letters, public response letters, meeting and public notices, and fact sheet are provided in Exhibits J-1, J-2, J-3, and J-4.

PUBLIC OPEN HOUSE MEETINGS

Public open house meetings were held to discuss and collect public and agency comments on the potential transmission line alternatives and the EA.

The first open house meeting was held in Ajo on Wednesday, December 4, 1996, from 4:00 pm to 8:00 pm at the Ajo High School, Dicus Auditorium. Notices of the open house meeting in Ajo appeared on November 13, 1996 and December 4, 1996 in the *Ajo Copper News*. Sign-in sheets indicated an attendance of 12 persons. The attendees were represented by government agencies, mining agencies, and other groups. The second open house meeting was held in Gila Bend on Thursday, December 5, 1996 from 4:00 pm to 8:00 pm at the Gila Bend High School Cafeteria. Notice of the open house meeting in Gila Bend appeared on November 14, 1996 in the *Gila Bend Sun*. Sign-in sheets indicated an attendance of three persons. Materials provided at the open houses consisted of fact sheets, comment forms, project maps, and resource maps (biology, existing land use, and future land use). In addition, PDAI and AIC provided information and displays on the proposed mining activities including a map, a diagram of the mining area and operations, a list of employees and number required, and economic information. Project team members were available throughout the open house meeting to answer questions. A team member fluent in Spanish was available, if necessary. Comment forms were available for people to either fill out at the open house meeting or return to the BLM at a later date. A copy of the project fact sheet available at the open house meeting is provided at the end of this appendix (J-4).

Individuals who attended the two open house meetings and other interested parties were added to the mailing list. Other parties contacted included federal, state, and local governments, and Native American Tribes and Alliances that are listed in Exhibit H. Responses from the public that were received at the open house meetings and throughout the comment and appeal period were incorporated into the evaluation of alternatives and selection of the proposed route. A total of 28

responses and a petition of 363 signatures supporting the proposed project were received (see Exhibit J-2 for public response letters).

NATIVE AMERICAN CONSULTATIONS

The December 1996 mailing of fact sheets and notices of the public open house meetings included the tribal governments of six Native American communities—Tohono O'odham Nation, Hia Ced O'odham Alliance, Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, and Hopi Tribe. That same month, the BLM Phoenix Field Office sent letters and made telephone contacts to the tribal presidents or chairmen, as well as cultural resource specialists of these same Native American communities. The letters included additional copies of the project fact sheet and requested comments regarding any concerns about potential impacts on traditional cultural resources, and offered to arrange specific meetings to discuss such issues if warranted. The telephone contacts were made to ensure that any comments or concerns were addressed.

The BLM Phoenix Field Office sent a copy of the EA to the Tohono O'odham Nation, Hia Ced O'odham Alliance, Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, and Hopi Tribe in April 1997. No comments were received from the tribes for the EA. In addition, the SHPO concurred with the BLM's recommendation of no effect for the proposed route.

EXHIBIT J-1
PUBLIC CONTACT LETTERS

AJO IMPROVEMENT COMPANY
P. O. DRAWER 9
AJO, ARIZONA 85321

November 12, 1997

Mr. Trent Keirne
Copper Kettle Restaurant
Ajo, Arizona 85321

Dear Trent:

Ajo Improvement Company (AIC), a subsidiary of Phelps Dodge Corporation, has proposed to build a new 230-kilovolt (kV) transmission line from Gila Bend to Ajo to support the resumption of copper mining operations at the Phelps Dodge Ajo mine. The proposed line would run approximately 47 miles within an existing electric transmission line corridor that parallels State Route 85. A 69 kV line owned and operated by Arizona Public Service currently is located within the corridor.

To license the proposed line, AIC will submit an Application for a Certificate of Environmental Compatibility to the Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission.

Your written comments relative to this proposed transmission line are important to the licensing agency. I ask that you please respond in writing with any information or comment that you or your organization would care to provide for inclusion in the application. Please provide written comment to me at the above address no later than November 14, 1997, so it can be included in the application. By way of background, as part of the permitting process for this project, an Environmental Assessment was prepared in compliance with the National Environmental Policy Act (NEPA). The U.S. Bureau of Land Management (BLM) approved the study, issuing a "Finding of No Significant Impact." This document is available for public review at the Ajo Improvement Company office in Ajo or may be obtained by contacting the Phoenix District offices of the BLM.

If you have any questions, please don't hesitate to call me at 387-7451. Thank you for your assistance.

Very truly yours,

J. H. Zamar
President

JHZ:sg

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099

In reply refer to:
2800(020)
AZA-29804

October 22, 1997

Dear Interested Party:

The Bureau of Land management has determined that a right-of-way will be issued for the 230kV transmission line from Gila Bend to Ajo, Arizona as described in the Proposed Action Alternative A of the Environmental Assessment prepared in April, 1997. Enclosed is a copy of The Decision Record with a copy of the Addendum to the Environmental Assessment, the Finding of No Significant Impacts (FONSI) and Form 1842-1 Information on Appeals and Standards for Obtaining a Stay.

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days of the date of this decision. The appellant has the burden of showing that the decision appealed from is in error. Appeals received by facsimile will not be accepted.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2804.1 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the enclosed Standards for Obtaining a Stay. Copies of the notice of appeal and the petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

If you should have any questions about these procedures please contact David Redmond (602-580-5527).

Sincerely,

Michael A. Taylor
Field Manager

Enclosures

Rediscover Your Public Lands

J-1.2

EXHIBIT J-2
PUBLIC RESPONSE LETTERS

AJO COUNTRY CLUB
P O BOX 400
AJO, AZ 85321

11/13/97

Mr. J. H. Zamar
President
Ajo Improvement Company
P O Drawer 9
Ajo, AZ 85321

RE: Your letter dated November 5, 1997
License for Proposed Line from Gila Bend to Ajo to
Support the Resumption of the Copper Mining Operation
at Phelps Dodge, Ajo Mine.

Dear Mr. Zamar:

As President of the Ajo Country Club, I have no objection to the proposed line and support the efforts of Phelps Dodge.

I am sure this is in accord with the Board of Directors and the membership for the gain of residents and revenue to the Ajo community.

Thank you,

L. R. Corky Sipe

Copper Kettle Restaurant

23 Plaza
Ajo, AZ 85321

November 13, 1997

Dear Arizona Power Plant and Transmission Line Siting Committee:

I am writing on behalf of myself and all of my employees regarding the proposed 230 kV transmission line which will be placed within the existing line corridor between Gila Bend and Ajo. We feel that whatever is necessary for Phelps Dodge to reestablish mining operations in Ajo should be given the utmost priority. The opening of the mine will not only benefit Phelps Dodge employees, but will greatly improve the business conditions and economy here for others. My employees feel that this will bring greater job security and higher wages as business increases. The transmission line is an essential part in this process, as the opening of the mine hinges on it. Knowing that the line can be put in an existing corridor with no significant impacts on the environment is an added bonus. Clearly the benefits of putting this transmission line in are great and far outweigh any possible negative results. Please do what you can do as a committee in helping the citizens of Ajo, and the 30 plus employees of Copper Kettle improve their living conditions by allowing this line to be put in. Thank you.

Sincerely

Trent Keime

Owner

COUNTY ADMINISTRATOR'S OFFICE

PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, TUCSON, AZ 85701-1317
(520) 740-8661 FAX (520) 740-8171

C. H. HUCKELBERRY
County Administrator

November 12, 1997

J. H. Zamar, President
Ajo Improvement Company
P.O. Drawer 9
Ajo, Arizona 85321

Re: Proposed Construction of a New 230 kilovolt (kV) Transmission Line from Gila Bend to Ajo to Support the Resumption of Copper Mining at the Phelps Dodge Ajo Mine

Dear Mr. Zamar

This letter is written in support of the application of the Ajo Improvement Company to construct the above-referenced power line. Since the power line is being constructed within an existing electric line corridor paralleling a State highway, Pima County believes the impact of such an activity is negligible and completely offset by the positive economic benefits that will accrue to the citizens of Pima County and Ajo regarding resumption of mining activity in Ajo at the existing Phelps Dodge facility. We would ask that the Corporation Commission issue the appropriate certificates, permits or licences to allow the facility to be constructed.

Sincerely,

C. Huckelberry

C.H. Huckelberry
County Administrator

CHH/jj

c: The Honorable Sharon Bronson, Member, Pima County Board of Supervisors
Arizona Power Plant & Transmission Line Siting Committee, Arizona Corporation Commission

PIMA COUNTY SHERIFF'S DEPARTMENT
P.O. BOX 910 • TUCSON, ARIZONA 85702-0910
PHONE (520) 741-4600 • FAX (520) 741-4622
CLARENCE W. DUPNIK, SHERIFF • STANLEY L. CHESKE, CHIEF DEPUTY

November 12, 1997

Mr. J.H. Zamar, President
Ajo Improvement Company
P. O. Drawer 9
Ajo, Arizona 85321

Dear John:

I am in receipt of your letter regarding the proposed installation of a 230 kV electric transmission line from Gila Bend to Ajo to support resumption of mining operations at the New Cornelia Mine.

I support this proposal.

As you know, the Pima County Sheriff's Department has over the last many months experienced low voltage electric problems with our facility. These problems are directly related to the limitations of the existing electrical system infrastructure. Energy demands of the community during the summer months exceeded the capacity of the system and made it difficult to meet our specific needs. It is my understanding that the installation of the new electric line would create an opportunity to remove specific high demand electric consumers, such as the water well field, from the existing system. In theory this would mean that the utility company would have more power to supply to residential and small business customers on the existing system. The proposed transmission line would in that respect be good for the customers of Ajo Improvement Company.

The single greatest benefit to the Ajo community will be the resumption of mining operations at the New Cornelia Mine. Reopening the mine will bring jobs and support services to the town that have been lacking since the mine first closed. In essence, the reopening of the mine will breathe life back into the community.

I believe that the benefits of the proposed transmission line outweigh the costs. Because the line will be installed within an existing electric transmission line corridor that presently supports an above ground transmission line, it is my opinion that the environment will not be adversely effected.

Paul Wilson

Lt. Paul Wilson, Commander
Ajo District

PDAI
DATE 11-12-97
AJB
JHZ
RDG
RCT
KM
WS
Other

File

THE HOTEL CORNELIA

300 La Mina Ajo Arizona 85321
(520) 387-5000

November 11, 1997

Mr. John Zamar
Ajo Improvement Company
P.O. Drawer 9
Ajo, Az 85321

Dear Mr. Zamar,

I am pleased to hear that Phelps Dodge is proposing an upgrade of their electrical facilities here in Ajo. We have long enjoyed Ajo Improvement Company's reasonable utility rates, and hope to continue being Ajo Improvement customers for years to come.

As out-going Ajo District Chamber of Commerce President I am concerned with Ajo and the surrounding communities. I am confident that Phelps Dodge also has the community interests in mind as well when proposing this upgrade.

I feel assured that since Phelps Dodge has performed a Bureau of Land Management approved environmental impact assessment in accordance with the National Environmental Policy Act, that bringing a new transmission line to Ajo will not be a threat to the quality of life here in Ajo.

I wish Ajo Improvement Company the best of luck in obtaining permission from the Arizona Corporation Commission to install the 230 kV transmission line from Gila Bend to Ajo.

Sincerely,

Jon Cameron

JC:pfd

PIMA COUNTY BOARD OF SUPERVISORS
130 WEST CONGRESS, 11th FLOOR
TUCSON, ARIZONA 85701-1317
(520) 740-8126

SHARON BRONSON
COUNTY SUPERVISOR
DISTRICT 3

November 10, 1997

Commissioners
Arizona Power Plant and Transmission Line Sitting Committee
Arizona Corporation Commission
1300 West Washington
Phoenix, AZ 85007

Dear Commissioners:

I support the licensing and the issuance of a Certificate of Environmental Compatibility to Ajo Improvement Company, a subsidiary of Phelps Dodge Corporation, for new 230-kilovolt transmission line from Gila Bend to Ajo. This proposed line would support the resumption of copper mining at the Phelps Dodge Ajo mine. Mine reopening would give a much needed economic boost to this rural Arizona town.

Please be aware that an Environmental Assessment was prepared in compliance with NEPA. The U.S. Bureau of land management approved the study and issued a FONSI--"Finding of No Significant Impact." If you have any questions, please contact me at 520-740-8051.

Sincerely,

Sharon Bronson
Vice-Chair

cc: John Zamar, President, Ajo Improvement Co.
Phelps Dodge Corporation

DEL SUR

ENTERPRISES

NOVEMBER 10, 1997

AJO IMPROVEMENT CO.
P.O. DRAWER 9
AJO, ARIZONA 85321

DEAR JOHN,

I THANK YOU IN ADVANCE FOR THE OPPORTUNITY TO COMMENT ON THE NEW 220(KV) TRANSMISSION LINE TO AJO, I HAVE READ IN DETAIL,THE BACKGROUND INFORMATION MENTIONED IN YOUR LETTER OF NOV. 5, 1997.
WE THE KLINEFELTER FAMILY,SUPPORT IN EVERY WAY YOUR APPLICATION FOR THIS PROJECT,AS WELL AS ANY OTHER ITEMS NEEDED BY PHELPS DODGE CORP. RELATIVE TO THE COMMUNITY.
SHOULD PHELPS DODGE NEED AT ANY TIME,PERSONS TO APPEAR BEFORE LICENSING AGENCYS OR OTHER GOVERNMENTAL BODIES, PLEASE FEEL FREE TO CALL UPON MYSELF, AS WELL AS MY ENTIRE FAMILY FOR THIS SUPPORT.
AS YOU KNOW, OUR FAMILY HAS BEEN LONG TERM RESIDENTS OF THE COMMUNITY,WITH OUR SEVEN BUSINESSES, WE HOPE IN SOME WAY, ALONG WITH PHELPS DODGE, WE HAVE BEEN A PART OF THE GLUE THAT HAS HELPED HOLD THE AREA TOGETHER THROUGH THE GOOD TIMES AND BAD.
I AM SORRY,IT HAS TAKEN SO LONG AND AT SUCH GREAT EXPENSE TO YOUR COMPANY, TO BRING THIS MUCH NEEDED IMPROVEMENT TO OUR AREA.
I HOPE THAT THIS LETTER WILL HELP THE COMMITTEES OF THE ARIZONA CORP. COMM. EXPEDITE YOUR REQUEST.
THANK YOU IN ADVANCE.

SINCERELY,

C. Bud Klinefelter

C.D. BUD KLINEFELTER
PRES. EMERITUS

CDK/cmm

2050 N. HIGHWAY 85 • AJO, ARIZONA 85321 • 602 387-6962 or 387-6907

J-2.7

ARIZONA DEPARTMENT OF TRANSPORTATION

INTERMODAL TRANSPORTATION DIVISION
Tucson District
1221 S. Second Avenue, Tucson, Arizona, 85713-1602
Phone (602) 620-5453

JANE DEE HULL
Governor

LARRY S. BONDS
Director

THOMAS G. BOSS
State Engineer

September 30, 1997

Ajo Improvement Company
Post Office Drawer 9
Ajo, Arizona 85312

RE: PERMIT NO.: 71892
EXTENSION NO.: 1

Dear Mr. Zamar:

This letter will serve to advise you that the completion date of the above referenced permit has been extended for 14 months from your previous completion date.

LOCATION: SR 85, Milepost 41.31, Station 45+68±

NEW COMPLETION DATE: December 31, 1998

Thank you in advance for ensuring that the permit work is completed within the new time frame in this extension.

Sincerely,

Sylvia Hanna
for DEBRA D. SYKES
Tucson District Permit Supervisor

DDS:

cc: Maintenance Permits
Mr. Richard Heredia

September 24, 1997

Michael Taylor, Field Manager
Bureau of Land Management
Phoenix Field Office
2015 W. Deer Valley Road
Phoenix, Arizona 85027

RE: Maricopa and Pima Counties; Proposed 230kv Transmission Line from the Gila Bend Substation to the New Cornelia Mine; DOD-AF and BLM

Dear Mr. Taylor,

Your letter addressing the issues raised in my previous letter regarding the above-referenced undertaking was received in this office on September 5. Regrettably, I was not able to review the matter until recently. I hope this has not unduly delayed your NEPA review process.

Your letter indicates that test excavations will precede construction at two sites, AZ Z:9:17 and 18 (ASM), where poles will be placed in the core area rather than the periphery of the site. Construction in the vicinity of three other sites (AZ Z:1:37, and Z:5:55 and 64) will be monitored by a qualified archaeologist. This strategy follows guidance provided by this office.

You provided a discussion of archaeological context for the prehistoric sites in the project area, prepared by J. Simon Bruder. As noted in my previous letter, context is a necessary component of any evaluation of eligibility. Carol Shull, Keeper of the National Register of Historic Places, and her staff have asked that State Historic Preservation Offices nationwide reemphasize the importance of theme and context in reaching consensus determinations of eligibility in the Section 106 process. Dr. Bruder's *Supplemental Discussion* will be attached to the report and placed in our library.

Please be assured that the SHPO appreciates the impossibility of requiring final engineering of a transmission line in advance of obtaining a right-of-way. In this instance, however, the many references in the report to the possibility of either *no effect* by virtue of avoidance or *mitigation* if the site(s) cannot be avoided suggested that there was greater than usual uncertainty about the location of the new line. You also addressed the issue of impacts arising from routine maintenance activities, a part of project effect, on the archaeological sites. We encourage you to include provision for continued avoidance of impacts to sites in the right-of-way as approved, in any locations where monitoring or testing "reveals sensitive buried remains."

Finally, you have determined that this undertaking will have no adverse effect on historic properties; we concur with that assessment.

As always, your cooperation with this office in considering the impacts of federal undertakings on historic preservation is greatly appreciated. If you have questions or concerns, please call me at (602) 542-7137 or 542-4009.

Sincerely,

Carol Heathington
Compliance Specialist
State Historic Preservation Office

J-2.8b

Arizona State Parks

Jane Dee Hull
Governor

STATE PARKS BOARD MEMBERS

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J. Dennis Wells
State Land Commissioner

Kenneth E. Travous
Executive Director

Charles R. Eatherly
Deputy Director

[illegible] West Washington
[illegible] Arizona 85007
T&TTY: 602-542-4174
1-800-285-3703
from (520) area code
http://www.pr.state.az.us

General Fax:
602-542-4180

OFFICIAL FILE COPY

United States Department of the Interior

Fish and Wildlife Service

Arizona Ecological Services Field Office

2321 W. Royal Palm Road, Suite 103

Phoenix, Arizona 85021-4951

(602) 640-2720 Fax (602) 640-2730

In Reply Refer To:
AESO/ES
2-21-97-I-055
CCN 970782

September 12, 1997

MEMORANDUM

TO: Field Manager, Phoenix Field Office, Bureau of Land Management, Phoenix, Arizona

FROM: Field Supervisor

SUBJECT: Request for Concurrence with the Determination of Effects of the Gila Bend to Ajo 230 kV Transmission Line Project

This memorandum is in response to your request for concurrence with the revised biological evaluation on the Gila Bend to Ajo 230 kV transmission line received in our office on September 11, 1997. The Bureau of Land Management is considering an application from the Ajo Improvement Company (AIC) for a powerline right-of-way from Gila Bend to Ajo. AIC proposes building and operating a 230 kV line to provide electrical service to the Phelps Dodge Ajo, Incorporated (PDAI) mine reopening project. The proposed powerline would extend 47 miles from a substation west of Gila Bend south between the existing 69 Kv line and Highway 85 to a substation in Ajo. The line would be a single-pole design, 82 feet tall, spaced 500 feet apart. An H-frame design 48 feet tall spaced 300 feet apart will be incorporated into the line but restricted to the area of the Ajo airport.

The BLM evaluated the effects of the proposed action including interdependent and interrelated actions and determined that the proposed project may affect but is not likely to adversely affect Sonoran pronghorn (*Antilocapra americana sonoriensis*), lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), and cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*). The BLM has determined that the reopening mine will remain in the current footprint of the mine and that no suitable habitat exists within the footprint of the mine for either Sonoran pronghorn, lesser long-nosed bat, or cactus ferruginous pygmy-owl. Surveys were done for cactus ferruginous pygmy-owls in the area of the powerline construction where potential habitat exists and none were found. The construction site is not within line of a known roost and foraging habitat and only minimal foraging habitat exists within the construction site. During construction of the power line, a biological monitor will arrive at the construction site at least one hour before the construction crew arrives and will remain on site for the entire day to observe for pronghorn. If pronghorn are observed, construction will be suspended until the animals move off on their own. Construction if necessary will be suspended or the location or timing of work will be altered depending on the proximity of pronghorn to the project.

The Fish and Wildlife Service (Service) has reviewed the revised biological evaluation and concurs with the BLM's determination that the proposed project may affect but is not likely to adversely affect Sonoran pronghorn, lesser long-nosed bat, and cactus ferruginous pygmy-owl.

If there are any questions or if we can be of further assistance, please contact Lorena Wada or Ted Cordery.

Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (GMA)

ARIZONA DEPARTMENT OF TRANSPORTATION

INTERMODAL TRANSPORTATION DIVISION

Tucson District

1221 S. Second Avenue, Tucson, Arizona, 85713-1602
Phone (602) 620-5453

FIFE SYMINGTON
Governor

LARRY S. ROSSER
Director

THOMAS G. SCHMITT
State Engineer

July 11, 1997

RECEIVED
JUL 14 1997

AIC-file
C-R/P
Brian Mc:
R.G

Ajo Improvement Company
Post Office Drawer 9
Ajo, Arizona 85312

Re: Permit No. 71892 Pima County
70429 Maricopa County

Dear Mr. Zamar:

Your Permit to use State Highway Right of Way has been approved and a copy of the permit is attached for your records. Please read the specifications and standards which are part of your approved permit.

When you are ready to schedule your permit work, please notify Mr. Rick Heredia, Supervisor of the Three Points Maintenance Office at 822-1031 for work in Pima County and Mr. Dave Miller, Supervisor of the Gila Bend Maintenance Office at 683-2582 for work in Maricopa County, three days prior to performing any work.

If at any time during the performance of your work, you determine it will not be possible to complete the permitted work by the expiration date on your permit, please submit a written request for a time extension. Your request should contain the reason for the delay and the additional time needed. Please submit your request to Mr. Heredia and Mr. Miller for approval and processing.

The safety of your workers and the users of the State Highway is of great concern to us. Prior to beginning work please ensure you are in compliance with the Traffic Control requirements of your permit.

Best wishes in the execution of your work.

Sincerely,

DEBRA D. SYKES
Tucson District Permit Supervisor

DDS

Enclosures
cc: Maintenance Permits
Maintenance Supvr.

J-2.11a

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

8 Jul 97

56 Fighter Wing Range Management Office
56 RMO/ESMP
6605 North 140th Drive
Luke AFB AZ 85309-1934

David Redmond
Project Manager
Bureau of Land Management
Phoenix Field Office
2015 West Deer Valley Road
Phoenix AZ 85027-2099

Dear Mr. Redmond,

Thank you for the opportunity to review the April 1997 Environmental Assessment regarding the installation of a 230kW transmission line from Gila Bend to Ajo, Arizona. Our review comments are attached.

The transmission line will not interfere with flying operations if kept below 100 feet in total height, but we will require visual markers be installed in areas where low-altitude flights occur, to ensure continued flight safety. Markers should be installed in accordance with Federal Aviation Administration requirements, from the Range 1 gate to a point two miles north of the Range 2 gate.

We are still awaiting final review of this document by our staff archaeologist, as requested by the State Historic Preservation Office, Carol Heathington. A copy of these comments will be forwarded to you at a later date.

Please call me at (602) 856-8791 if you have any questions.

Sincerely

Linda J. Woestendiek

LINDA J. WOESTENDIEK
Natural Resources Planner, BMGR

Attachment:
Luke AFB Comments

JLM

SMS

Keep in Touch by Marceline Mariotti

Dear Friends and Neighbors

Ajo. Az.
6/23/97

Dr. Yearley
President Chairman and C.E.O.
Phelps Dodge Corporation
2600 N Central Ave
Phoenix, Az. 85004-3014

Dear Mr. Yearley

You can really flatter and overwhelm a lady with your wonderful words of praises. I was delighted to have had the opportunity of expressing my true feelings. Had a great letter from V.P. Jim Madson and Yes, John Zamar has done a tremendous job on Ajo and all the admirers will tell you so.

I am enclosing the 363 signatures of Ajo citizens who really and truly are thankful for all PD has done the past 13 years + are so happy to hear that the Mine will REOPEN

These signatures were gathered in less than a week - Our summer population is diminished by at least 50%. About 60 other people took sheets to complete

Best Regards,

Marceline

Mariotti

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97).

Marceline Mariotti	Chelsea Sacca
Jon Marion	Virginia Moody
Ron Smith (Smith)	Roland Moody
Dale Kerr	Alfred E. Barry
[illegible]	Bobby G. [illegible]
Trent Keime	Jesus A Valenzuela
Lee Peterson	Ramiro V. Gonzalez
Estelle Bryant	[illegible]
Jaime E. Murillo	Ed Dau
Jim J. Schnell	[illegible]
John T. Anderson	Lydia Bates
Marty Branson	[illegible]
Thomas W. Branson	Elizabeth [illegible]
Soledad Alcapia	Charlotte Thomas
D R Yubet	William F. Thomas
S Marrow	Ruth Shelton
Melanie D. Hemenway	Bernard Barry
Betty Iggins	Helen Barry
Bob & Pat Hemenway	Salena Gaetjens
Lee A. Richards	Charles J. Gaetjens
Keith R. Keime (Keime)	Shirley Stewart
Kay Lawrence	[illegible] (Stoddard)
Yolanda Karabatsy	Mr. Divone G. Fawt
Maria Lopez	Marie Diehl
Ruby Ortiz	[illegible]

"Thanks"

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Rita Ford	Olice Ford
Hilda [illegible]	
[illegible]	Suzanne [illegible]
Antonio Uribe	Betty [illegible]
Bettie R. [illegible]	Roberta [illegible]
Fay Hammonds	[illegible]
Monique [illegible]	[illegible]
Margo Alegria	William L. Evans
Irma Malindo	Lilly Evans
Odilia Melendrez	[illegible]
Margaret A. [illegible]	Rose S. Gonzales
[illegible] Young	[illegible]
Clara Price	Billie Jane Jackson
Elena Lopez	John T. Jackson
Dolores V. [illegible]	Mildred J. Stephens
[illegible]	Donald G. Stephens
Dolores Bryant	Mae A. Hay
Marjorie Cameron	Thelma [illegible]
Lucille M. [illegible]	Andrea [illegible]
Harold F. [illegible]	Ed Holt
DeLores Koch	Geraldine Macfarlane
James H. Snyder	Marty J. Gray
[illegible]	Walter W. [illegible]
Dan C. Price	Cynthia [illegible] and family
June R. Mathews	[illegible]
Helen Karnik	Helen [illegible]
Marian (Peggy) Garrett	
Stella [illegible]	Hugh W. Drake

10

109

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97).

[illegible]	Onika Bustamante
Kenneth Martin	José M. Valad[illegible]
Marina Bustamante	Joan Huff
Stella Peterson	[illegible]
Gloria M. Garcia	E. Feliz
R. E. Hickman	Victoria Feliz
Mary Hickman	Eileen Smith
Vivian Sealberg	Elsa Martinez
Deena Freshwater	Jo Prise
E. D. "Gene" Reaves	[illegible]
Wanda Farmer	Lisa C Stock
William Lopshire	B. J. Parker
Cecil Ford	Lewis O'Neal
Victoria Corso	Mary Martinez
Ruperto Montijo Jr	Carol Lee Ford
Wesley Montijo	Harold [illegible]
Cornelius J. McGrady	[illegible]
Moody Tredway	James E. Thomas
Marian Silva	[illegible]
Michael Chandler	Bill [illegible]
Rita Marichales	Roberto [illegible]
Doyle Hackworth	Elsa Lee [illegible]
Wm R Tredway	J. E. Alley
[illegible]	Ruth Alley
Maria Valadez	Mr. & Mrs. Lamar Walker

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97)

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James P. McKay	Dennis Celaya
Lary Morales	Audrey Walker
Nataline Leep	Ruth Alley Larsen
Perry Bowden	Maria Arthur
Clyde L. Dunlap	Melva Kornacki
[illegible] Davis	Maria Martinez
Paulina Reyes Carreras	Marina Sanchez
Jack Martin	Alice Anderson
[illegible] Castillo	Burt Anderson
Karl G. Kornack	[illegible]
Patricia Shockley	Wm Dreggors
Maria Blou	Anna Reed
Irma Chavez	[illegible]
J.C. Jacks	R.J. PARK
Carmen Livingston	ERMA PARK
Lottie Blount	G.C. Pipe
229 Alison Smith	[illegible]
Angie Olvis	[illegible]
[illegible] M Collins	Lester M Zinser
[illegible] Collins	Margaret I Zinser
Pat Taylor	[illegible]
Curt Taylor	Iona E [illegible]
Lynn Martin	Barbara [illegible] (OLIVER)
Ray Martin	Lupe Ramirez
Fred E. [illegible]	Carmen G. Mayo
237 238 Ann Hunter	Marylou Sipe (Sr.) 240 260

J-2.17

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97).

These were from the Ajo Clinic + people at the Clinic

W. H. McElhaney [?], MD Dr. McDonald [?]	
Vikki Wright	
Lydia Lorenzo [?]	
Teri Peterson [?]	
Jeanette Carrey [?]	
Gladys E. Harrison [?]	
David Harris [?]	
Robert J. Glass [?]	
E. Bassett	
Clyde E. Bassett	
Frances W Madden [?]	
12 Millie J Rudkin [?]	

273

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97).

Most of these were gathered at the clinic - employees & patients

Sherry J Messer	
Sandy Antone	
Eustolia Flores	
[illegible]	
[illegible]	
Virginia Celaya	
[illegible]	
Clarissa Sandoval	
[illegible]	
[illegible]	
[illegible]	
[illegible]	
Paul Waterman	
[illegible] L. Hanna	
Dorothy Havens	
[illegible]	
Esther Barragan	
Erlinda Ayon	
[illegible]	
Ed. Mota Jr	
Amada Mota	
[illegible]	
[illegible] L Armstrong	
[illegible]	
John [illegible]	

298

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97).

Leviah Treadway
Cecilia McLee
[illegible]
Rev. Ina L. Eaton
Mr. + Mrs. J. Rumfelt
Charles Reed
Thea Reed
Artemisa Julander
Barbara A. Totten
Lyle L. Elkins
Delma Elkins
FOURNIER, DEAN.
THE MINE MANAGER B + B
Norma Sue Rendon
Wesley J. Bromley

"Thanks"

To Phelps Dodge Corp. and it's Board of Directors for voting to reopen the Ajo Mine, and Thank You for keeping Ajo "alive" by supporting the Clinic, the Fire Department, the School System, the Girl Scouts, Ajo Chamber of Commerce, Ajo "Look Out", Ajo Museum, Churches, Elks Club, Moose Lodge, Ajo Country Club, Ajo Desert Music Club's Scholarship Fund, Ajo Fine Arts Council, Ajo Youth Sports, Food Bank, Ajo Community Street Lights, Ajo Plaza Park ('till it was sold) for the last 13 years ('84-'97).

A. Jay Anderson	
Evelyn Davis	
Rebekah I. Braden	
Shirley A. Sieglock	
M M Johnnie Sieglock	
Elizabeth Parish	
Pat Snowden	
Louis V Brand	
Rita Garcia	
Sofia Ramirez	

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Peggy Cole	231 Rocalla
[illegible] F Kornack	1831 W Clymer
Cindie A Davis	731 Connelly
Ted Johnson	231 E 4th Ave
Bruce J. Carrington	
Cathy Bucke ☺	
Clyde Workman	/
Ray Giger	
Hazel Richardson	
10 Veta Roberson	
Mary Ellen Drisco	
(signed on a sheet we dis-	
carded)	

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Edna Reaver	Helen Senko
Kenneth J Henderson	Durwin + Rose Zimmerman
Betty L Henderson	Mildred I Priddy
Violet Daley	
Jane Cordell	
Earl Henderson	
Bill Snider	
Anna Ross	
Robert Ross	
LAWRENCE DAVIS	
Ilse Launer	
Elizabeth T. Reyna	
LEO REYNA	
Tommie Boyd	
Alma Jones	
Ellen Livingston	
Mary Millsap	
Gordon Leap	
Sharon Gordon	
Betty J Jordan	
Melvin L Wright	
Carol B Wright	
H.E. (Buck) Nelson	
Florence Nelson	
Margot A. Bissell	

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THE STATE OF ARIZONA

GAME & FISH DEPARTMENT

2221 West Greenway Road, Phoenix, Arizona 85023-4399 (602) 942-3000

Yuma Office, 9140 E County 10½ Street, Yuma, AZ 85365-3596

May 27, 1997

Mr. David Redmond
Bureau of Land Management
Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099

Re: Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Gila Bend to Ajo 230kV Transmission Line Project, Maricopa and Pima Counties

Dear Mr. Redmond:

The Arizona Game and Fish Department (Department) has reviewed the above-referenced draft EA and FONSI. The Department understands that 89% of the proposed transmission line will be constructed within BLM designated utility corridors and adjacent to State Route 85 and a 69kV subtransmission line. The area has been previously disturbed by urban development at both ends of the proposed route and by the development of a highway, railroad, and subtransmission line along the proposed route. These developments have reduced the value of the area to wildlife. If the proposed mitigation measures and standard operating procedures are followed, the Department does not foresee any significant adverse impacts to wildlife resulting from this project.

Thank you for the opportunity to review and comment on this draft EA and FONSI. Please send me a copy of the final EA when it becomes available. If you have any questions, please give me a call at 520-342-0091.

Sincerely,

Russell K Engel

Russell K. Engel
Habitat Specialist, Region IV

cc: John Kennedy, Habitat Program Manager, Region IV
Larry Voyles, Regional Supervisor, Region IV
Greg Carmichael, Proj. Eval. Coordinator, Habitat Branch

AGFD# 04-30-97(B)

LAND AND WATER FUND of the ROCKIES

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May 27, 1997

Mr. Dave Redmond
Bureau of Land Management, Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027

Re: Comments of the Mineral Policy Center and Mr. Bill Broyles on the Environmental Assessment for the Proposed Gila Bend to Ajo 230kV Transmission Line Project

Dear Mr. Redmond:

These comments are submitted by the Land and Water Fund on behalf of the Mineral Policy Center and Mr. Bill Broyles on the Environmental Assessment (EA) for the Proposed Gila Bend to Ajo 230kV Transmission Line Project. Mineral Policy Center is dedicated to cleaning up the environmental damage caused by mineral development in America and to prevent its repetition. The Center aims to give citizens and communities a powerful voice in mineral development decisions which will affect their lives. The Center has about 2,000 members across the nation. Mr. Broyles has used and enjoyed public lands in the Ajo area on a regular basis for decades, volunteers for the Fish and Wildlife Service in Ajo, and plans to retire in the area.

I. Legal Background

As noted in our previous comments, the National Environmental Policy Act (NEPA) requires each federal agency to prepare and circulate for public review and comment a detailed environmental impact statement (EIS) prior to any major federal action that may have a significant effect on the environment. 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1502.5, 1508.3 Robertson v. Methow Valley Citizen's Council, 490 U.S. 332, 336, 109 S.Ct. 1835, 1839 (1989); Foundation for North American Wild Sheep v. United States Dept. of Agriculture, 681 F.2d 1172, 1177-78 (9th Cir. 1982). When a federal agency is not certain whether an EIS is required, it must prepare an environmental assessment (EA). 40 C.F.R. §§ 1501.3, 1501.4, 1508.9; see also North American Wild Sheep, 681 F.2d at 1178; Sierra Club V. Marsh, 769 F.2d 868, 870 (1st Cir. 1985). If the EA concludes that the proposed project will have no significant impact on the

human environment, the agency may issue a "Finding of No Significant Impact" ("FONSI"), and proceed with the proposed action. If the agency concludes that there may be a significant effect, then it must prepare an environmental impact statement. See 40 C.F.R. § 1501.4; Greenpeace Action v. Franklin, 14 F.3d 1324, 1328 n.4 (9th Cir. 1992); Smith v. U.S. Forest Service, 33 F.3d 1072, 1074 n.1 (9th Cir. 1994).

Federal courts have interpreted NEPA to require that when preparing an EA, agencies must take a hard look at the potential impacts of a project, and ensure that when a FONSI is made, that the EA convincingly concludes that no significant impacts will occur in order to forego an EIS. An agency must "supply a convincing statement of reasons why potential effects are insignificant." Save the Yaak Committee v. Block, 840 F.2d 714, 717 (9th Cir. 1988) quoting The Steamboaters v. FERC, 759 F.2d 1382, 1393 (9th Cir. 1985) (emphasis added).

In addition, Counsel on Environmental Quality (CEQ) regulations recognize that intelligent decisionmaking can only derive from high quality information. EAs must provide "evidence and analysis" for their conclusions that doing a FONSI or full EIS is required. 40 C.F.R. § 1508.9. In addition, information included in NEPA documents "must be of high quality. Accurate scientific analysis ... [is] essential to implementing NEPA." 40 C.F.R. § 1500.1(b).

Environmental assessments must take a hard look at the "environmental impacts" of proposed actions, 40 C.F.R. § 1508.9(b), which include direct, indirect, and cumulative impacts. See 40 C.F.R. § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect or cumulative); 40 C.F.R. § 1508.25(c) (EIS shall consider three types of impacts, including direct, indirect, and cumulative effects); 40 C.F.R. § 1508.25(a)(2) (EISs must analyze the effects of actions "which when viewed with other proposed actions have cumulatively significant impacts"). Indirect effects

> are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water quality and other natural systems, including ecosystems.

40 C.F.R. § 1508.8(b); BLM NEPA Handbook, H-1790-1, Glossary p. 2.

Federal caselaw amplifies that agencies must disclose the direct and indirect environmental effects a federal action will have on non-federal lands. See City of Davis v. Coleman, 521 F.2d 631, 677-81 (9th Cir. 1975) (where federal approval of highway project likely to have impacts on development of surrounding area, agency must analyze development impacts in EIS); Coalition for Canyon Preservation v. Bowers, 632 F. 2d 774, 783 (9th Cir. 1980) (same); Sierra Club v. Marsh, 769 F.2d 868, 877-89 (1st Cir. 1985) (striking down EA where agency failed to account for private development impacts likely to result from its approval of causeway and port facility);

Mullin v. Skinner, 756 F.Supp 904, 920-22, (E.D. N.C. 1990) (striking down EA where agency failed to account for private development impacts likely to result from agency approval of bridge). Such impacts must be disclosed, particularly where facilitating private development may be the project's "reason for being." See Citizens Comm. Against Interstate Route 675 v. Lewis, 542 F.Supp. 496, 562 (S.D. Ohio 1982).

In addition, if cumulative effects, in combination, would result in significant impacts to the human environment, the agency must prepare a full environmental impact statement. Inland Empire Public Lands Council v. Schultz, 992 F.2d 977, 981 (9th Cir. 1993); Resources Limited, Inc. v. Robertson, 8 F.3d 1394, 1400 (9th Cir. 1993).

II. The EA Fails to Comply with NEPA.

Because the EA fails to meet NEPA's requirements. BLM should withdraw this EA and prepare a new, with full opportunity for public review and comment. The EA fails to include some of the most basic information required in an EA. It fails to consider a range of reasonable alternatives fails to provide information about the direct and indirect impacts of the project, and fails to consider the impacts of other reasonably foreseeable projects that may, together with this project, have cumulative impacts on a variety of resources.

A. The EA Fails to Consider a Range of Reasonable Alternatives.

The requirements of NEPA and regulations implementing it clearly require agencies to consider all reasonable alternatives to an agency action in preparing environmental review documents, including EAs. NEPA requires agencies to:

> Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.

42 U.S.C. § 4332(2)(E). This duty to consider reasonable alternatives is independent and of wider scope than the duty to complete an EIS. See Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1228-29 (9th Cir. 1988), cert. denied, 489 U.S. 1066 (1989) ("Consideration of alternatives is critical to the goals of NEPA even where a proposed action does not trigger the EIS process"); Natural Resources Defense Council v. U.S. Dept. of the Navy, 857 F.Supp. 734, 739-40 (C.D. Cal. 1994) (duty to consider reasonable alternatives is independent and of wider scope than the duty to complete an EIS); Sierra Club v. Watkins, 808 F.Supp. 852, 870 (D.D.C. 1991) (same); Sierra Club v. Alexander, 484 F.Supp. 455 (N.D.N.Y. 1980) (same). It is intended to ensure that each agency decisionmaker identifies, evaluates, and takes into account all possible approaches to a particular proposal which would better address environmental concerns and the policy goals of NEPA.

Federal courts and CEQ regulations implementing NEPA make clear that the discussion of alternatives is "the heart" of the NEPA process. 40 C.F.R. § 1502.14. In order to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public," environmental documents must explore and evaluate "all reasonable alternatives." Id.

As part of its analysis of the proposed action, the EA must examine thoroughly -- rather than dismissing after summary review based on unsupported assertions -- alternatives, including: co-generation at the site in Ajo, approving a smaller kV power line, and alternative transmission routes.

According to BLM's David Redmond, Phelps-Dodge has completed a study on the economics of on-site generation of electrical power, which it has refused to share with BLM or anyone else. ***All PD has apparently shared with BLM is a 1-page excerpt or summary of the analysis***. Pers. comm. with David Redmond, BLM, May 22, 1997. ***Mr. Redmond stated that BLM did not even retain this 1 page in its administrative record!*** It was forced to call Phelps Dodge to provide that 1 page to the LAW Fund. BLM thus neither provides to the public or even possesses any quantifiable data, and PD has provided neither the public nor the BLM with any of the assumptions, models, or data underlying the cursory conclusions presented in the EA regarding on-site generation, or any other alternative. PD simply asked BLM to take PD's word that other on-site generation or alternate transmission routes were too expensive and too environmentally harmful.

This is the essence of arbitrary decision-making, and clearly shows BLM took no look rather than the required hard look at alternatives to that proposed by Phelps Dodge. BLM, after all, works for the public, whose land it is empowered and required to protect, not for Phelps Dodge.

In a dismissive, cursory analysis of the on-site generation alternative, BLM states as follows:

> ... if the existing power plant at the mine was refurbished to meet the electrical needs of the proposed mining activities, there would be substantially greater cost, water requirements, and air emissions associated with this alternative compared to the proposed action.

EA at 2-7. There are three majors flaws with this dismissal of the on-site generation alternative. First, as noted above, BLM possesses almost no information about the costs, environmental impacts, water requirements or air emissions of the on-site generation alternative, preferring to simply trust PD's word for it that the costs would be "substantially greater." Second, BLM provides the public with no quantification with respect to any of these impacts. How much is "substantially greater"? If on-site generation costs PD twice as much, why wouldn't that be an

acceptable alternative to BLM, since it would avoid all environmental impacts to BLM land? Third, the BLM provides virtually no information about the preferred alternative's impacts on the environment in terms of the environmental costs of generating an additional 45MW of electricity in a remote site. Generating electricity elsewhere is likely to require additional water, cause increase emissions, etc. BLM has no way to weigh those costs against the costs of on-site generation. IF it did so, it might find impacts different than predicted by PD.

The BLM thus provides no data or rational explanation of its decision to dismiss the on-site generation alternative without further review.

The complete dismissal of a number of reasonable alternatives raises a number of different issues. Indeed there are some logical alternatives that do not appear to have even been mentioned. The total requirements for the mine operation is 45 MW. The existing 69kV line is capable of providing 25 MW. The remaining needs are 20 MW. A 230kV line appears on its face to be much larger than necessary. The extremely cursory information in the EA raises a number of questions:

Transmission Line. Why wouldn't the addition of a second circuit on the same or modified 69 kV towers both keep the towers below 100 feet and be less expensive?

Was a 115kV line considered? What are the costs and environmental impacts of this alternative vis-à-vis the 230kV alternative? Why wouldn't such a line meet most of PD's needs?

What are the economic impacts of the preferred alternative on the remaining body of customers of Arizona Public Service Company (APS)? Will the $10 million cost of the 230kV line be shared among all customers of APS or paid entirely by PD?

Energy Supply. The EA provides almost no information about the existing power plant in Ajo. What is that plant's capacity? What type of fuel does it use? What are the water requirements? What are the refurbishment costs? What would be the environmental impact of refurbishment, and how does it compare with those of a transmission line?

What other types of on-site and off-site alternative energy sources were reviewed? What are the costs and environmental impacts of a combined cycle gas plane? Of a gas turbine? Of cogeneration? How do these compare with the cost of power and related environmental impacts from APS-provided power?

If the new power comes from existing power plants in the West, what work has been done to analyze the increased air pollution emissions, increased water consumption and other environmental impacts that will result from the increased utilization of the existing plants?

Given that the Arizona retail electricity market will not be opened to full competition until 2003, the Ajo mine must likely buy its energy from APS. What economic and environmental analyses has BLM undertaken to determine the effects of the purchase of power for PD's Ajo mine on the remaining body of APS customers?

If the energy is anticipated to be supplied from someone other than APS, what considerations and/or arrangements have been made for recovery of APS' stranded costs?

What studies have been performed on the opportunities for the town of Ajo to municipalize its electric system, so that it is able to purchase power on the wholesale market? How do the costs and environmental impacts compare with the preferred alternative?

Other. Why does it matter that a 69kV transmission line would "require substantial modifications to the existing electrical capacity of the mine"? EA at 2-8. The interests of BLM and the applicant are not identical. If building such a line might reduce impacts to BLM public lands and limit the capacity of a destructive mining operation, such an alternative might be preferable to that currently proposed. However, rather than take the required hard look, BLM merely dismisses this alternative out-of-hand.

The EA states that the USAF desires that transmission towers or poles should not exceed 100 feet in height. EA at 2-8. And yet BLM staff stated that they had received no material from the USAF on this issue. Pers. comm. with David Redmond, BLM (May 21, 1997). If the alternative of towers greater than 100 feet is to be dismissed, such information must be obtained and included in any subsequently prepared NEPA document.

Underground transmission is described as "extremely expensive." EA at 2-9. Based on what data? How much is "extremely expensive?" If BLM wishes to dismiss alternatives, it must provide some support for its cursory conclusions. To date, it has clearly failed to do so, in violation of NEPA.

B. BLM Must Analyze Reasonable Alternatives, Even If They Are Beyond BLM's Jurisdiction to Implement.

BLM cannot dismiss the alternative of on-site generation because only PD, not BLM can implement it. NEPA makes clear that agencies must examine reasonable alternatives, even where the agency is without authority to implement them. NEPA's implementing regulations specifically require that environmental impact statements (EISs) "[i]nclude reasonable alternatives not within the jurisdiction of the lead agency." 40 C.F.R. § 1502.14(c). CEQ guidance explains that "[a]n alternative that is outside the legal jurisdiction of the lead agency must still be analyzed if it is reasonable." CEQ, Memorandum: Questions and Answers About the NEPA Regulations, 46 Fed Reg. 18026 (March 23, 1981), as amended, 51 Fed. Reg. 15618 (Apr. 25, 1986). See, e.g., Natural Resources Defense Council v. U.S. EPA, 822 F.2d 104, 128 (D.C. Cir. 1987) (agency

"[took] note of its obligation to consider all reasonable alternatives to the proposed federal action, regardless of whether the agency has the power to implement those alternatives."). Federal courts agree that the spirit of NEPA requires an analysis of alternatives and impacts which goes beyond the bounds of the lead agency's jurisdiction.

> NEPA requires an integrated view of the environmental damage that may be caused by a situation, broadly considered, and its purpose is not to be frustrated by an approach that would defeat a comprehensive and integrated consideration by reason of the fact that particular officers and agencies have particular occasions for and limits on their exercise of jurisdiction.

Henry v. FPC, 513 F.2d 395, 406 (D.C. Cir. 1975) (where federal agency had jurisdiction over decision that would help trigger larger project, agency must analyze impact of larger project). See also NRDC v. Morton 458 F.2d 827, 833-34 (D.C. Cir. 1972) (Department of Interior must consider impacts of alternatives only Congress and President have authority to implement); National Wildlife Federation v. Marsh, 568 F.Supp. 985, 990-91 (D.D.C. 1983) (Department of Army considers 19 alternative sites for facility for which applicant had identified its preferred location). Failure to evaluate reasonable alternatives merely because they cannot be directly implemented by the lead agency or the applicant squarely contradicts the goals of the Act.

Other courts agree. "[T]he evaluation of 'alternatives' mandated by NEPA is to be an evaluation of the alternative means to accomplish the general goal of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals." Van Abbema v. Fornell, 807 F.2d 633, 638 (7th. Cir. 1986) (Army Corps of Engineers must explore fully alternatives beyond its jurisdiction in evaluating Clean Water Act § 404 permit). See also id. (applicants for federal permits cannot complain that they do not own a site involving an alternative, because federal courts have held that "[t]he fact that [an] applicant does not now own an alternative site is only marginally relevant (if it is relevant at all) to whether feasible alternatives exist to the applicant's proposal").

Thus, BLM must fully consider the impact of on-site generation, even if BLM has no authority over land upon which such a plant would be built.

C. The EA Fails to Disclose the Impacts of the Project on Wildlife.

The EA fails to take the required "hard look" at impacts to wildlife. For example, the EA states that: "Nine special status wildlife species may be present in the study area. These species are described below." EA at 3-9. But the EA below describes only 7, neglecting to discuss the bald eagle and the California leaf-nosed bat. See Appendix C.

The EA also fails to describe accurately the potential impacts of the project on Sonoran pronghorn. For example, FWS personnel have stated that the fact that Sonoran pronghorn have

been seen crossing Highway 85 is extremely significant, a fact downplayed in the EA. See EA at 3-9, pers. comm. with FWS staff, May 23, 1997.[1] In addition, the EA relies on a "completed" biological evaluation for Sonoran pronghorn that does not exist. See EA at 4-7. BLM staff have indicated that BLM submitted a draft biological evaluation to the Fish and Wildlife Service (FWS), but that the FWS has yet to approve the conclusions of the draft.[2] Also, Sonoran pronghorn have been seen in the vicinity of the PD mine; their range extends to the edge of the pit. See Yuma Training Range Complex (YTRC) Final EIS, 3-105. The draft, not-yet-approved BE fails to address the impacts on Sonoran pronghorn of the mine's opening: which will include night-lighting, the noise from 15,000hp engines, dozens of trucks, and, potentially, further mining on now-undisturbed PD property.[3]

D. The EA Fails to NEPA Requires Agencies to Present and Evaluate Mitigation Measures.

"Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that NEPA documents will discuss the extent to which adverse effects can be avoided." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351-52 (1989). CEQ regulations implementing NEPA require that the agency discuss possible mitigation measures:

- in defining the scope of the EIS, 40 C.F.R. § 1508.25(b);
- in discussing alternatives to the proposed action, 40 C.F.R. § 1502.14(f);
- in discussing consequences of that action, 40 C.F.R. § 1502.16(h); and
- in explaining its ultimate decision, 40 C.F.R. § 1505.2(c).

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[1] The EA states that Sonoran pronghorn have been observed "within 1 mile of the study area." EA at 4-7. If Sonoran pronghorn have been observed on Highway 85, as indicated in the EA, they have been observed within a few hundred feet of the project area.

[2] The "preliminary" BE made available by BLM relies in part on a more than 7-year-old biological opinion, which almost certainly was based on very little information concerning the nature and extent of PD's (and BLM's) current proposal. A subsequent consultation between BLM and FWS is therefore required by the Endangered Species Act, Section 7.

[3] Nor does the draft BE address the impact of mine operation (aside from transportation impacts) on ANY listed or candidate species.

See also Robertson v. Methow Valley, 490 U.S. at 351-52 (finding CEQ's interpretation of NEPA persuasive and controlling).

It is thus well established that an agency must develop, discuss in detail, and identify the likely environmental consequences of proposed mitigation measures. Robertson v. Methow Valley, 490 U.S. at 352 ("[M]itigation [must] be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated ....")

Not only must NEPA documents explore and analyze potential mitigation measures, but a decision to proceed with a project must not be based on arbitrary assumptions about the success of mitigation measures.

> [W]here an agency's decision to proceed is based on unconsidered, irrational, or inadequately explained assumptions about the efficacy of mitigation measures, the decision must be set aside as "arbitrary and capricious."

Stein v. Barton, 740 F.Supp. 743, 754 (D. Alaska 1990) (where letters and reports of agency experts questioned effectiveness of mitigation measures proposed in EIS, agency ROD overturned as arbitrary and capricious).

Federal courts also have concluded that NEPA requires agencies to "analyze[] the mitigation measures in detail [and] explain[] ***how effective*** the measure would be. A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." Northwest Indian Cemetery Protective Association v. Peterson, 764 F.2d 581, 588 (9th Cir. 1985) rev'd on other grounds 485 U.S. 439 (1988) (emphasis added).

BLM fails to provide a discussion of mitigation measures adequate to comply with NEPA. Numerous measures are identified, but their effectiveness is never described, nor does the EA provide any evidence as to how the BLM intends to ensure that they are undertaken. Some proposed mitigation measures are so loosely worded that they will provide no protection to public lands at all.

For example, "no blading for new roads unless authorized by the BLM." EA at 2-1; see also 2-6 ("No blading for new access roads would be allowed unless approved by the BLM"). However, BLM provides no description for under what circumstances BLM will permit such blading. Approval of the project per this EA could allow the entire route across public lands to be bladed if BLM permits. This is not a mitigation measure at all, but an open-ended invitation to blade new roads in the area, an impact which is not discussed in the EA.

In addition, the EA states that "specific development plans will be prepared to include mitigation measures." EA at 2-1. Thus, not only is the effectiveness of mitigation measures never disclosed, the mitigation measures themselves are not revealed to the public.

The EA does provide a list of standard mitigation measures, of "selectively recommended mitigation measures," and of "standard operating procedures." See Appendices D and E. However, ***nowhere*** does BLM describe the effectiveness of the mitigation measures, as required by NEPA and federal caselaw.

The EA also states that the project proponent is committing to funding monitoring for cultural resources, and relies on this funding in reaching the following conclusion: "the BLM is expected to determine that installation of the proposed transmission line will have "no adverse effect" on historic properties as defined in regulations ...." EA at 4-6. However, BLM provides no evidence to demonstrate that PD has actually provided any "commitment." For example, is there a memorandum of understanding contract, or other signed, ***enforceable*** instrument signed by BLM and PD to this effect? None is discussed in or attached to the EA.

E. The EA Fails to Account Adequately for the Environmental Impacts of the Proposed Project Together with Other, Reasonably Foreseeable Projects

The EA contains a table listing a number of projects which may have cumulative impacts when viewed together with the 230kV transmission line project. EA at 4-12. The table ignores at least three reasonably foreseeable projects: (1) the Yuma Training Range Complex amendments (FEIS issued early May, 1997) which will increase low-level jet aircraft overflights and noise on or near Ajo and the Gila Bend-to-Ajo corridor (potential for cumulative impacts on wildlife, and potential cumulative impacts from noise); (2) the Federal Aviation Administration proposal upon which a draft EA was released in early 1996 to construct an Air Route Surveillance Radar facility atop Childs Mountain within the Cabeza Prieta National Wildlife Refuge, and within view of the Gila Bend-to-Ajo corridor (potential for cumulative impacts on wildlife, viewshed, traffic); and (3) the proposed management plan for the Cabeza Prieta National Wildlife Refuge, released in the last few weeks, which will affect management and use of public lands adjacent to Ajo and within the viewshed of the Highway 85 corridor (potential for cumulative impacts on wildlife, traffic, recreation). Any subsequently prepared NEPA document must consider the cumulative impacts of the 230kV transmission line together with these proposals.

In addition, the EA fails to discuss adequately cumulative impacts. While numerous projects are listed in the EA, at 4-12, the EA provides absolutely no description of the impacts of the proposals by themselves, and the EA fails to quantify or describe with any particularity the impacts from other projects. See, e.g., EA at 4-15 (description of impacts on water resources describes projects which will "increase ... water pollution and ... demand for water resources" without quantifying extent of the increase in any way). NEPA requires a hard look at cumulative impacts; this EA does not take such a hard look.

F. The EA Fails to Take a Hard Look at the Impacts of Reopening the Phelps Dodge Ajo Inc. Mine.

For a number of years, PD has planned to reopen the mine at Ajo. PD has big plans for the mine, some of which are still secret or tentative, but many of which have been released to the public and reported in the press.

Unfortunately, the EA neither discloses nor analyzes virtually any of this information to BLM decisionmakers or the public in the EA. This despite the fact that, at least according to BLM and PD, the project will not happen without the construction of the 230kV transmission line. For if the only reasonable alternatives to constructing the transmission line is unreasonably expensive and thus not considered by BLM or PD, without the transmission line the project cannot go forward.

BLM's failure to address the impacts of the PD mine reopening as an indirect effect violates NEPA and contradicts caselaw cited above. There can be little doubt that the mine reopening is the proposed transmission line's "reason for being." See Citizens Comm. Against Interstate Route 675 v. Lewis, 542 F.Supp. 496, 562 (S.D. Ohio 1982).

Thus, the impacts of operating the mine itself must be considered an indirect effect and analyzed as such in any subsequently prepared NEPA document. Even if BLM continues to insist that the impacts of reopening the mine are cumulative impacts, they must be disclosed, which they are not here.

Operating giant rock-crushers, trains, trucks, blasting dynamite, and housing and feeding 400 workers, will have impacts 24 hours a day, 365 days a year on Ajo and its environs. Some of these impacts include:

1) water quality and quantity, both in Arizona and at the remote site where materials will be processed;

2) air quality, including impacts resulting from the operation of rail transport vehicles between Ajo and the ultimate destination of the mined material as well as the smelting of material at a remote location;

3) wildlife, including potential impacts on the endangered Sonoran pronghorn antelope, whose range extends to the city limits of Ajo[4];

[4] Because BLM's approval of the transmission line may affect the recovery of the Sonoran pronghorn, BLM must consult with the Fish & Wildlife Service pursuant to the Endangered Species Act (ESA) § 7(a)(2), 16 U.S.C. § 1536(a)(2), and implementing regulations, 50 C.F.R. § 402.14.

4) vegetation and wildlife habitat, including such habitat on private land;

4) socioeconomic factors, including impact on the economy of the town of Ajo, which has is recovering from the boom-bust cycle of a mining-based economy to rely more on income from retirees, snowbirds, tourists, and recreationists, segments of the population that may be less willing to live in or visit the area when the mine is reopened;

5) noise;

6) recreation and wilderness use of the Cabeza Prieta National Wildlife Refuge and Organ Pipe National Monument and adjacent BLM lands, which will likely increase as the population of Ajo may increase to support the mine;

7) public health and safety; and

8) scenic vistas (visual resources).

The EA acknowledges that some of these resources will be affected by mine operation, but provides absolutely no quantitative estimates of impacts. PD, a sophisticated business, plans to re-open the mine within 18-30 months. This is a huge investment and business decision for PD, undoubtedly based on sophisticated and detailed feasibility studies. PD must have estimates of how much water they will use, how long operations will run, how much noise the rock-crushers will emit, what air pollution impacts are likely to result.[5] Much of the information about this project is currently available to the public, but not even mentioned in the EA. For example, the mine is expected to process 38,000 tons of ore per day, will operate for "more than ten years," will employ about 400 people, at wages averaging $17 per hour, according to press reports. See Arizona Daily Star, R. Ducote, "PD to reopen Ajo copper mine," (May 8, 1997), attached as Ex. 1. The EA contains virtually none of this information, thus depriving both the decisionmaker and the public of an opportunity to understand the true impacts of the proposed transmission line which will make the mine possible. BLM must obtain this information from PD in order to ensure that the agency discloses to the public and decisionmakers information concerning the project's impacts (whether direct, indirect, or cumulative), as required by NEPA.

The EA's failure to disclose these impacts which are available to members of the public leads to deep flaws and omissions in the EA. As noted above, the EA fails to contain any

(..continued)

[5] PD was certainly able to calculate its need for power with some precision, since it has proposed the 230kV powerline.

information quantifying impacts on water resources. PD clearly has estimated how much water it can use and where it will get it in order to process 38,000 tons of ore per day. But BLM fails to even give a ballpark estimate for such impacts. Similarly, the EA concludes that "the proposed noise levels would are not anticipated to exceed levels from previous mining operations. The proposed project would not contribute to any overall increase in noise impacts." EA at 4-15. These statements are misleading and deeply flawed for at least two reasons. First, the question at hand is whether noise will significantly increase from what noise is compared to the no action alternative, not what noise was from previous mining operations. Since PD attempted to destroy the unions and closed the mine at Ajo, the nature of those living in Ajo has changed dramatically. The former PD company town is now a town with a more balanced economy reliant on tourism. Many of the new residents will not be used to a more populous, industrial town that PD will create by reopening the mine. Second, the EA fails to acknowledge that blasting, railroad operations, huge trucks and the roar of engines with tens of thousands of horse power operating 7 days a week, 24 hours a day, and a 50% increase in workers in town will change the amount of noise in the area. BLM's conclusion that there would be no overall increase in noise impacts is simply arbitrary, capricious, and not supported by facts.

Less than 900 individuals are employed in Ajo now. Press reports indicate that the PD mine reopening will nearly double the size of the workforce. See Ex. 1. Yet the EA fails to make any estimate quantifying the impacts of this major influx of workers and, potentially, family members on, among other things, the housing market, the use of public lands nearby for recreation, water use, air pollution, and other resources. BLM's analysis of recreation impacts in this context is particularly thin. BLM states that "the cumulative impacts on recreation areas in the vicinity of the study areas is anticipated to be low due to the vast availability of other BLM lands nearby for recreational purposes." EA at 4-11. This apparently assumes that use of BLM recreational areas will be evenly dispersed over a wide area, an assumption for which BLM provides no basis, in violation of NEPA's "hard look" doctrine.

The EA states that it is "not known at this time what location or level of lighting is required." EA at 4-13. Does PD really have no idea how much lighting is required? Cannot BLM obtain this information from PD?

The EA also presents an unremittingly positive view of the economy as a result of PD's mine reopening. Ask people in Ajo how the economy was when PD broke the strike, hired scabs, and then fired everyone by closing the mine. PD could do the same thing in the future, depending upon the price of copper. According to industry-watchers, "[t]he instability of the mineral market appears to have increased over time." T. Powers, "Lost Landscapes and Failed Economies," Island Press, 1996, at p. 105. Powers also concludes that promises of higher wage jobs from mining do not in fact justify a conclusion that "more high-wage jobs are a cure for whatever economic ills may plague a community.... The instability endemic to mining discussed above is primarily responsible for the[] sluggish economies [of mining-dependent communities across the US]. But 'monoculture' mining does more than cripple local economies. It leaves in its wake

massive environmental degradation." Id. at 111. BLM's rose-colored view of the mine project on Ajo's community is unjustified. It may take a town recovering from dependence on an unstable industry and put it back on the mining roller-coaster.

The EA also fails to disclose basic information about mining operations, such as how often trains will run and how fast. This will have impacts on air quality (from train engines) and wildlife (from road-kill). The EA also fails to disclose: What will happen to tailings piles that exist now? Will new ones be created? Where? What will visual impacts be? What is the time-frame for reclamation? What criteria will be used to conclude that reclamation is complete? Who will determine that?

G. The EA Fails to Account for Numerous Impacts of the Project Itself.

The EA fails to disclose a number of potential impacts of granting PD the right-of-way, including: How long will the right-of-way last? Will the public treasury make any money from this deal? Will PD post a bond? Under what standards, criteria, laws and regulations will BLM permit overland access, trampling and blading? What consequences will PD face if standards are violated?

How does BLM intend to protect essential cryptobiotic soils? Will it ensure that only native plants are used in any revegetation efforts? If not, why not? How will revegetation be accomplished, and under what standards? Where and how will salvaged plants be maintained? Will they be returned to sites from whence removed?

Will vehicular inspection imply a new roadway parallel to the powerlines? What impacts will this have? Will equipment storage sites be reclaimed? How?

Does BLM intend to survey arroyos for presence of the cactus ferruginous pygmy owl, a species protected under the Endangered Species Act?

How does this project fit in with the planned 230kV line from Gila Bend to Santa Rosa?

What will the impacts be of the increase of employment of workers (on economy, air quality, recreation, housing, etc.) to construct and maintain the line? While these impacts may be temporary, they must be discussed and are not quantified.

The EA states that wilderness areas would not be affected by this project or by other reasonably foreseeable projects. EA at 4-1. That conclusion is not necessarily so. The Cabeza Prieta Wilderness and National Wildlife Refuge is within a few miles of the project area. The proposed project is visible form the wilderness. The proposed project and other reasonably foreseeable projects in the area may cause air pollution, and increased illegal motorized recreation there.

Failure to address adequately these impacts again demonstrates the EA's failure to take the required hard look.

III. The EA Fails to Ensure Compliance with FLPMA and the Current Management Plan.

FLPMA requires that all instruments, including right of ways, issued by BLM must conform with applicable land use management plans. See 43 U.S.C. § 1732(a) ("Secretary shall manage the public lands . . . in accordance with the land use plans developed by him under section 1712"); see also 43 C.F.R. § 1610.5-3(a) ("All future resource management authorizations and actions . . . shall conform to the approved plan"). The EA fails to ensure that the proposed Gila Bend-to-Ajo transmission line complies with the current plan for the area, the Goldwater Amendment.

According to the Goldwater amendment, p. 4, "All rights-of-way are subject to USAF concurrence." The EA fails to state or provide any evidence that the US Air Force has concurred with this proposal. If the USAF has so concurred, a letter of concurrence should be included in any subsequently prepared NEPA document.[6]

In addition, the Goldwater amendment, p.4, also states that the BLM "will: ... restrict construction of overhead transmission lines to paralleling the existing Gila Bend to Ajo 69-kV transmission line." It is unclear from EA that this part of the plan is complied with since 11 percent of the overall project length is outside the utility corridor, and the maps are equivocal as to location of the existing power line. See EA at 1-1. BLM must clarify whether or not the proposal conforms to the Goldwater Amendment with regard to this provision, or whether an amendment to the Plan is required.

Conclusion.

As noted in our January letter, state agencies may require Phelps Dodge to obtain permits to protect air and water quality prior to reopening the mine. This fact does not eliminate BLM's responsibility to evaluate and analyze the potential impact of the project on air and water quality or other resources. Neither does compliance with state permitting standards in and of itself ensure that the impacts to those resources will not be significant. BLM must fulfill its NEPA obligations regardless of state agencies' actions.

Thank you for this opportunity to comment. Our comments would have been more useful had we had more time to comment, which BLM refused to provide. If you have any questions in this matter, please call me at 303-444-1188, ext. 213.

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[6] If the USAF has already provided BLM with a letter of concurrence, we request that BLM provide the LAW Fund with a copy within 10 business days.

Sincerely,

Edward B. Zukoski, Staff Attorney

Attorney for Mineral Policy Center
Bill Broyles

cc: Bill Broyles
Aimee Boulanger, Mineral Policy Center
John Fritschie, Defenders of Wildlife
Ms. Meredith, BLM State Office
The Hon. Bruce Babbitt, Secretary, Dep't of the Interior

1820 W. Rocalla
Ajo, AZ. 85321
May 19, 1997

United States Department of the Interior
Bureau of Land Management
Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ. 85027 2099

Dear Mr. Redmond:

Thank you for sending me a copy of the Gila Bend to Ajo 230 kv Transmission Line Project Environmental Assessment.

Approximately 175 Ajo residents, who attended a meeting, 99% were in favor of the mine resuming operations.

Many who are in their nineties lived in Ajo when the mine was in operation. They pointed out they suffered no respiratory diseases.

The citizens of Ajo would like to know why it is taking so long for Phelps Dodge to receive the necessary permits for work to start at the mine.

Sincerely

June D. Marcus

June D. Marcus
1820 W. Rocalla
Ajo, AZ.
(520) 387 7565

Howard T. & Mary E Frazer
3675 Rosser Road
Ajo, AZ 85321
(520)386-6235

May 14, 1997

Mr. David Redmond, Project Manager
United States Department of the Interior
Bureau of Land Management
Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099

RE: RIGHT-OF-WAY APPLICATION -GILA BEND OT AJO 230kV TRANSMISSION LINE
2800(020)AZA-29804

Dear Mr. Redmond:

After reviewing the Environmental Assessment and draft FONSI on the captioned project, we wanted to be on record and state our preference regarding the choice of alternatives as described and listed in the Environmental Assessment in the final siting of the right-of-way.

As residents of the north-eastern part of Ajo, the selection of alternate Route A (Links 10, 30, 50, 60 - Length 46.5 miles) is the most appealing to us. We are one of the residences that is nearest the proposed route and Route B would put the right-of-way nearest to us. Besides the detrimental visual impact this would have (which is discussed in the Environmental Assessment), we also have concerns regarding the potential for emissions of extremely low level electromagnetic radiation that surround such power transmission lines (which was not discussed in the Environmental Assessment). Since levels of such electro-magnetic radiation will depend on the actual location, configuration and load conditions of the power lines, it makes common sense to use Alternate Route A, which keeps the power transmission lines farthest from any residences. This is especially true since the scientific evidence regarding exposure of people (and children especially) to these electromagnetic radiations is not yet completely developed or known. Additionally, it is known that the presence of such power lines near a residence does cause the diminution of property value, and in some states there have been legal decisions that allow for compensation of property owners who have had such power lines constructed near their properties. All these factors make a strong case for using alternate Route A, and not Alternate Route B, both of which are described in the Environmental Assessment.

Please take our concerns into account when deciding on the final location of the right-of-way. Thank you.

Sincerely,

Mary E. Frazer

Howard T. Frazer

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PHOENIX, ARIZONA

DATE 1/14/97

LAND AND WATER FUND

Legal Aid For The Environment

January 10, 1997

Mr. Dave Redmond
Bureau of Land Management, Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027

Re: Proposed Gila Bend to Ajo 230kV Transmission Line Project

Dear Mr. Redmond:

Thank you for discussing the proposed Gila Bend to Ajo 230kV transmission line project with me last week. From our conversation, I understand that the Bureau of Land Management (BLM) will incorporate these comments into its scoping analysis, despite the fact that they were received after the January 3 deadline. If my understanding is in error please give me a call.

These comments are submitted by the Land and Water Fund on behalf of the Mineral Policy Center, Defenders of Wildlife, and Mr. Bill Broyles. Mineral Policy Center is dedicated to cleaning up the environmental damage caused by mineral development in America and to prevent its repetition. The Center aims to give citizens and communities a powerful voice in mineral development decisions which will affect their lives. The Center has about 2,000 members across the nation. Defenders of Wildlife is a nonprofit corporation with over 125,000 members across the nation, and over 4,000 members in Arizona. Defenders is dedicated to preserving wildlife and emphasizing appreciation and protection for all species in their ecological role within the natural environment. Mr. Broyles has used and enjoyed public lands in the Ajo area on a regular basis for decades.

These comments supplement those provided to you by Mr. Broyles dated December 30.

Legal Background. The National Environmental Policy Act requires each federal agency to prepare and circulate for public review and comment a detailed environmental impact statement (EIS) prior to any major federal action that may have a significant effect on the environment. 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1502.5, 1508.3 Robertson v. Methow Valley Citizen's Council, 490 U.S. 332, 336, 109 S. Ct. 1835, 1839 (1989); Foundation for North American Wild Sheep v. United States Dept. of Agriculture, 681 F.2d 1172, 1177-78 (9th Cir.

1982). When a federal agency is not certain whether an EIS is required, it must prepare an environmental assessment (EA). 40 C.F.R. §§ 1501.3, 1501.4, 1508.9; see also North American Wild Sheep, 681 F.2d at 1178; Sierra Club V. Marsh, 769 F.2d 868, 870 (1st Cir. 1985). If the EA concludes that the proposed project will have no significant impact on the human environment, the agency may issue a "Finding of No Significant Impact" ("FONSI"), and proceed with the proposed action. If the agency concludes that there may be a significant effect, then it must prepare an environmental impact statement. See 40 C.F.R. § 1501.4; Greenpeace Action v. Franklin, 14 F.3d 1324, 1328 n.4 (9th Cir. 1992); Smith v. U.S. Forest Service, 33 F.3d 1072, 1074 n.1 (9th Cir. 1994).

Federal courts have interpreted NEPA to require that when preparing an EA, agencies must take a hard look at the potential impacts of a project, and ensure that when a FONSI is made, that the EA convincingly concludes that no significant impacts will occur in order to forego an EIS. An agency must "supply a convincing statement of reasons why potential effects are insignificant." Save the Yaak Committee v. Block, 840 F.2d 714, 717 (9th Cir. 1988) quoting The Steamboaters v. FERC, 759 F.2d 1382, 1393 (9th Cir. 1985) (emphasis added).

In addition, Counsel on Environmental Quality (CEQ) regulations recognize that intelligent decisionmaking can only derive from high quality information. EAs must provide "evidence and analysis" for their conclusions that doing a FONSI or full EIS is required. 40 C.F.R. § 1508.9. In addition, information included in NEPA documents "must be of high quality. Accurate scientific analysis ... [is] essential to implementing NEPA." 40 C.F.R. § 1500.1(b).

Environmental assessments must take a hard look at the "environmental impacts" of proposed actions, 40 C.F.R. § 1508.9(b), which include not only the direct, indirect, and cumulative impacts. See 40 C.F.R. § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect or cumulative); 40 C.F.R. § 1508.25(c) (EIS shall consider three types of impacts, including direct, indirect, and cumulative effects); 40 C.F.R. § 1508.25(a)(2) (EISs must analyze the effects of actions "which when viewed with other proposed actions have cumulatively significant impacts"). If cumulative effects, in combination, would result in significant impacts to the human environment, the Forest Service must prepare a full environmental impact statement. Inland Empire Public Lands Council v. Schultz, 992 F.2d 977, 981 (9th Cir. 1993); Resources Limited, Inc. v. Robertson, 8 F.3d 1394, 1400 (9th Cir. 1993).

Forest Service policy on NEPA closely follows the CEQ regulations in regard to the necessity of analyzing cumulative effects. That policy, adopted after public comment and publication in the Federal Register, states:

> Individual actions when considered alone may not have a significant impact on the human environment. Groups of actions, when added together, may have collective or cumulative impacts which are significant. Cumulative effects which occur must be considered and analyzed without regard to land ownership boundaries. Consideration must be given to the incremental effects of the past, present, and reasonably foreseeable related actions of the Forest Service as well as those of other agencies and individuals.

Forest Service Handbook 1909.15 - Environmental Policy and Procedures Handbook, 1909.15-92-1, § 15.1, 57 Fed. Reg. 43180, 43199 col.1 (Sep. 18, 1992).

Federal caselaw amplifies that agencies must disclose the direct and indirect environmental effects a federal action will have on non-federal lands. See City of Davis v. Coleman, 521 F.2d 631, 677-81 (9th Cir. 1975) (where federal approval of highway project likely to have impacts on development of surrounding area, agency must analyze development impacts in EIS); Coalition for Canyon Preservation v. Bowers, 632 F. 2d 774, 783 (9th Cir. 1980) (same); Sierra Club v. Marsh, 769 F.2d 868, 877-89 (1st Cir. 1985) (striking down EA where agency failed to account for private development impacts likely to result from its approval of causeway and port facility); Mullin v. Skinner, 756 F. Supp 904, 920-22, (E.D. N.C. 1990) (striking down EA where agency failed to account for private development impacts likely to result from agency approval of bridge). Such impacts must be disclosed, particularly where facilitating private development may be the project's "reason for being." See Citizens Comm. Against Interstate Route 675 v. Lewis, 542 F.Supp. 496, 562 (S.D. Ohio 1982).

BLM Must Analyze the Impacts of the Proposed Phelps Dodge Mine Reopening Project. It is beyond dispute that the purpose of the 230kV line is to make possible the proposed Phelps Dodge mine reopening project in Ajo. As stated in the scoping notice, the transmission line would provide electric service for the project. The project apparently cannot occur without the power provided by the transmission line. The entity requesting the right-of-way -- the Ajo Improvement Company -- is apparently a subsidiary of Phelps Dodge. E. Zukoski, pers. comm. with Dave Redmond, BLM (Jan. 2, 1997). BLM identifies the project in other documents as the "Phelps Dodge 230 kV Powerline Project." Management Log for Dec. 1996, Phoenix Dist. Office. Other BLM memos state: "Plans call for the [transmission] line to service the 16,000-hp motors at the reopening mine." Minutes of the Barry Goldwater Range Coordination Meeting (Dec. 9, 1996).

Any NEPA document, therefore, must disclose and analyze the impacts not merely of constructing the powerline, ***but also the direct, indirect, and cumulative impacts of reopening the mine and operating crusher-concentrators at Ajo.***

These impacts, as Mr. Broyles indicated in his December 30 letter, will be numerous. The project will apparently involve the mining and crushing of rock at the Ajo mine site and on other patented land in and adjacent to Ajo. Phelps Dodge may hire up to 400 workers for the operation. Work may occur early in the morning, at night, and on weekends. The project will thus have potentially significant impacts on environmental resources on and adjacent to Phelps Dodge property which must be disclosed and analyzed by BLM.

The project will also require operation of rail transport between Ajo and the ultimate destination of the mined material, identified by BLM officials as in New Mexico. Rail transportation has the potential to cause wildlife death from direct strikes and displacement or disturbance from habitat, as well as air pollution.[1]

The project will also require the processing of mined material at a remote location -- processing which would not occur but for the BLM's approval of the right-of-way.[2] Such processing may have significant impacts on air, water, wildlife, and other resources at that location.

It is likely, then, that the project will have significant impacts on a number of resources -- in Ajo, along the right-of-way route, along the rail transportation corridor, and where the material is ultimately processed -- which BLM must disclose in any NEPA document. Resources that may be impacted include:

1) water quality and quantity, both in Arizona and at the remote site where materials will be processed;

2) air quality, including impacts resulting from the operation of rail transport vehicles between Ajo and the ultimate destination of the mined material as well as the smelting of material at a remote location;

---

[1] BLM must identify the amount of rail traffic currently using the lines over which the material will be transported, and the extent to which rail transport will increase when the mine reopens.

[2] Failure of the BLM to analyze impacts at the site where the mined material is ultimately processed would be like looking only at the impacts of building and launching a missile, and ignoring where it hits the ground.

3) wildlife, including potential impacts on the endangered Sonoran pronghorn antelope, whose range extends to the city limits of Ajo[3];

4) vegetation and wildlife habitat, including such habitat on private land;

4) socioeconomic factors, including impact on the economy of the town of Ajo, which has is recovering from the boom-bust cycle of a mining-based economy to rely more on income from retirees, snowbirds, tourists, and recreationists, segments of the population that may be less willing to live in or visit the area when the mine is reopened;

5) noise;

6) recreation and wilderness use of the Cabeza Prieta National Wildlife Refuge and Organ Pipe National Monument and adjacent BLM lands, which will likely increase as the population of Ajo may increase to support the mine;

7) public health and safety; and

8) scenic vistas (visual resources).

In addition, BLM must analyze reasonable alternatives regarding routes for the transmission line which minimize the project's impact on wildlife and wildlife habitat, visual resources, and other values. BLM, as part of its analysis of the "no action" alternative, must also consider whether less severe environmental impacts will occur if Phelps Dodge undertakes the proposed type of mining activity at another location.

Because the potential impacts of the project are significant, we respectfully request that BLM prepare an environmental impact statement to analyze and disclose its potential effects as required by NEPA, implementing regulations and federal caselaw.

In addition, prior to the preparation of any draft NEPA document, BLM should provide the public with more detailed information about the mine project in order to ensure informed and useful comments. The scoping "Fact Sheet" provides virtually no information on the mine reopening except for the fact that it is proposed. BLM personnel also apparently have little information on Phelps Dodge's proposed actions.

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[3] Because BLM's approval of the transmission line may affect the recovery of the Sonoran pronghorn, BLM must consult with the Fish & Wildlife Service pursuant to the Endangered Species Act (ESA) § 7(a)(2), 16 U.S.C. § 1536(a)(2), and implementing regulations, 50 C.F.R. § 402.14.

Should Phelps Dodge provide no more information to BLM and the public concerning its plans, BLM must make a very conservative estimate of the project's potential impacts; that is, one that assumes the maximum likely damage from the mining operations, rail transport, and further processing.

Finally, state agencies may require Phelps Dodge to obtain permits to protect air and water quality prior to reopening the mine. This fact does not eliminate BLM's responsibility to evaluate and analyze the potential impact of the project on air and water quality or other resources. Neither does compliance with state permitting standards in and of itself ensure that the impacts to those resources will not be significant. BLM must fulfill its NEPA obligations regardless of state agencies' actions.

Thank you for this opportunity to comment. If you have any questions in this matter, please call me at 303-444-1188, ext. 213.

Sincerely,

Edward B. Zukoski, Staff Attorney

Attorney for Mineral Policy Center
Defenders of Wildlife
Bill Broyles

cc: Bill Broyles
Aimee Boulanger, Mineral Policy Center
John Fritschle, Defenders of Wildlife

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1996 DEC 13 AM 6:23
BUREAU OF LAND MGT
PHOENIX, ARIZONA

December 11, 1996

Mr. Ken Drew
Mr. Hector Abrego
Bureau of Land Management, Lower Gila Resource Area
3015 West Deer Valley Road
Phoenix, AZ 85027

Re: Thank You

Dear Mr. Drew and Mr. Abrego:

Thank you for meeting with me last month concerning management of BLM lands in and around the Goldwater Range near Ajo. I appreciated hearing your concerns (and your listening to mine) about the natural and cultural values of the area.

As we mentioned in our conversation, I would appreciate being included on your mailing list for the group that meets occasionally regarding management of the Goldwater Range.

In addition, please keep me on your mailing list regarding the request for right-of-way to facilitate the re-opening of Phelps Dodge operations in Ajo. I will be interested in participating in scoping on the proposal. Since Phelps Dodge's project may be impossible without the electricity provided by the power-line, NEPA may require BLM to disclose the effects not just of the footprint of the power-poles, but also the impact of the Phelps Dodge project itself.

Again, thank you for your time. I look forward to working with you in the future. Please give me a call at 303-444-1188 x213 if I can be of assistance.

Sincerely,

Thanks again!

Edward B. Zukoski, Staff Attorney

Attorney for The Wilderness Society

cc: Pamela Pride Eaton, TWS

2260 Baseline Road • Suite 200 • Boulder, Colorado 80302 • (303) 444-1188 • FAX (303) 786-8054
e-mail: landwater@lawfund.org • Web site: http://www.lawfund.org

DATE RECEIVED 8/1/97
COMMENT NUMBER 8

AJO IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY
ENVIRONMENTAL ASSESSMENT
SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

(✓) Submitted by Mail ( ) Ajo Open House December 4 1996 ( ) Gila Bend Open House December 5, 1996 ( ) In Person

Please share your ideas, comments, and concerns in the space provided below. Fold this form, staple or tape it shut, attach postage, and return to the BLM by January 3, 1997. If you prefer, you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 85027-2099
602/780-8090

The proposed 230kV transmission line project is following a very acceptable pathway alongside the TC&GB railroad as the RR will be discontinued within the next 3 years. The easement to the [illegible] of new 85 [illegible]. It follows an existing line so [illegible] the new line [illegible] over a few feet in either direction. [illegible] We are in favor of the line & have been members of the Ajo community for [illegible] years.

RECEIVED PDO 1997 JAN -2 AM 10: 38 BUREAU OF LAND MGMT PHOENIX, ARIZONA

Please help us keep our mailing list accurate and up to date by returning a master mailing list data entry form. You may enclose the form with this comment sheet.

LAST NAME Silva FIRST NAME Barbara / Marvin INITIAL N/Z
TITLE (OPTIONAL)
ORGANIZATION NAME (if applicable)
MAILING ADDRESS (Street/POB/etc) 25?? N. Elliott Rd
CITY Ajo STATE AZ ZIP CODE 85321

30 December 1996

Dear BLM,

You have asked for comments and concerns on the proposed 230kV power line to Ajo. I have a few which I would like you to consider in your discussions and planning.

1. Please insist that it is as aesthetic as possible. This is a scenic highway in a region increasingly dependent on tourism. Will they be painted? How tall will they be?

2. Please insist that the poles and lines be friendly to birds, especially our large raptors. Protection from electrocution is important.

3. Please determine if this line will replace, supplement, or bypass the private power users of Ajo. Is this line just for Phelps Dodge, or for the entire community? Will the present line remain or be dismantled? Two parallel lines would be unsightly.

4. What ground disturbance will be required for construction and maintenance? Will it be restored? Will BLM land be ceded to Phelps Dodge? What mitigation does PD offer?

5. Could the new line go along Phelps Dodge existing railroad easement? It would seem that putting the line east of the highway along the railroad would have several benefits: 1) aesthetics: it would be less ugly, 2) safety: farther from military aircraft using the western Ranges, and 3) safety & convenience: construction and maintenance would not interfere with traffic on Highway 85.

Also, why doesn't the line follow the railroad straight into the mine instead of circling east of the tailings pile? Is the line that visually obtrusive? If so, this would be another reason for locating the power line along the tracks all the way from Gila Bend.

6. How will expanded mining affect BLM and private lands around the pit? What are the pollution factors: noise, dust, visual, chemical? And how are they addressed?

7. And, some larger issues need to be addressed both as this project affects BLM lands and as it affects the larger community.

a. How will reopening mining operations and the addition of several hundred new employees to build and run the mine affect local communities, lifestyle, and our enjoyment of BLM lands? How will this expansion affect retirees and winter visitors who come here for relaxation and recreation? Local commerce has made the transition to a non-mining economy--will renewed mining disrupt that economy?

b. Are there sufficient water resources to run the operation and supply public users? As I understand matters, Phelps Dodge controls the local water supply; do they have a commitment plus sufficient, proven, long-term supply to provide the neighboring communities? How will increased PD water usage affect ranch wells on nearby cattle allotments?

c. Will this line have any direct benefit for the local citizens?

d. How will this affect property values for those of us who own land and homes in Ajo?

We owe it to ourselves to discuss and answer these questions before the 230kV line is approved. Literally we must live with your decision for the next 15-30 years.

Thank you.

Respectfully,

Bill Broyles

Bill Broyles
5501 North Maria Drive
Tucson, Arizona 85704

DATE RECEIVED 12/6/96

COMMENT NUMBER 6

AJO IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY ENVIRONMENTAL ASSESSMENT SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

(X) Submitted by Mail ( ) Ajo Open House December 4, 1996 ( ) Gila Bend Open House December 5, 1996 ( ) In Person

Please write your written comments and concerns in the space provided below. Fold this form, staple or tape it shut, affix postage and return to the BLM by January 3, 1997. If you prefer you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 85027-2099
602/780-8090

AJO NEEDS PHELPS DODGE INDUSTRIES.
ALLOW THE POWER LINE TO CROSS PUBLIC
LAND. WORK WITH THE PEOPLE NOT AGAINST
THEM. WE PAY THE TAXES & PHELPS DODGE
PAYS ALOT OF TAXES. KEEP THAT IN MIND.
THANK YOU. Richard E Daniels
PS I HAVE BEEN A RESIDENT OF AJO FOR 35 YEARS.

Please help us keep our mailing list accurate and up to date
by returning a master mailing list data entry form.
You may enclose the form with this comment sheet

LAST NAME DANIELS FIRST NAME Richard INITIAL E.
TITLE (OPTIONAL) RETIRED
ORGANIZATION NAME (if applicable):
MAILING ADDRESS (Street/POB/etc) POB 853
CITY Ajo STATE Ariz ZIP CODE 85321

DATE RECEIVED [illegible]
COMMENT NUMBER 5

AJO IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY ENVIRONMENTAL ASSESSMENT SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

(X) Submitted by Mail ( ) Ajo Open House December 4, 1996 ( ) Gila Bend Open House December 5, 1996 ( ) In Person

Please share your ideas, comments, and concerns in the space provided below. Fold this form, staple or tape it shut, attach postage, and return to the BLM by January 3, 1997. If you prefer, you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 85027-2099
602/780-8090

We need this power line to come into Ajo, because it will keep it a very thriving town now and in the future.

Please help us keep our mailing list accurate and up to date by returning a master mailing list data entry form. You may enclose the form with this comment sheet.

LAST NAME: Daniels FIRST NAME: Henrietta INITIAL: ____
TITLE (OPTIONAL): ____
ORGANIZATION NAME (if applicable): ____
MAILING ADDRESS (Street/POB/etc): P.O. Box 553
CITY: Ajo STATE: Az ZIP CODE: 85321

DATE RECEIVED 12/4/96
COMMENT NUMBER: 4

AJO IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY
ENVIRONMENTAL ASSESSMENT
SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

(X) Submitted by Mail ( ) Ajo Open House December 4, 1996 ( ) Gila Bend Open House December 5, 1996 ( ) In Person

Please share your ideas, comments, and concerns in the space provided below. Fold this form, staple or tape it shut, attach postage and return to the BLM by January 3, 1997. If you prefer, you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 85027-2099
602/780-3090

I support APS + Ajo Improvement decision for the new line. Ajo has power problems and the line will help

Please help us keep our mailing list accurate and up to date by returning a master mailing list data entry form. You may enclose the form with this comment sheet.

LAST NAME: Klinefelter FIRST NAME Carol INITIAL m
TITLE (OPTIONAL)
ORGANIZATION NAME (if applicable)
MAILING ADDRESS (Street/POB/etc) 605 N Second
CITY Ajo STATE Az ZIP CODE 85321

DATE RECEIVED: 12/4/96
COMMENT NUMBER: 3

AJO IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY
ENVIRONMENTAL ASSESSMENT
SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

(x) Submitted by Mail ( ) Ajo Open House December 4,1996 ( ) Gila Bend Open House December 5, 1996 ( ) In Person

Please share your ideas, comments, and concerns in the space provided below. Fold this form, staple or tape it shut, attach postage, and return to the BLM by January 3, 1997. If you prefer, you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 35027-2099
602/780-8090

Sirs

Phelphs Dodge desires to install this 230Kv transmission line is in the best interest of the state, county, and community.

There willingness to invest the amount of money needed to reopen the mine in Ajo indicates to me that they are certainly a socially minded corporation, and should be accorded due coopération in there endevours.

Many, Many American companies have taken their monies and invested in 2nd, and 3rd world countries, where BLM, E.P.A. and O.S.H.A. are not relavent factors.
Phelphs Dodge has taken some monies abroad, yet have maintained a strong presence in the United States, employing a great number of our citizens, and keeping our economy strong.

-over

Please help us keep our mailing list accurate and up to date by returning a master mailing list data entry form. You may enclose the form with this comment sheet.

LAST NAME Kinetz FIRST NAME Karl INITIAL M
TITLE (OPTIONAL) Business Owner
ORGANIZATION NAME (if applicable)
MAILING ADDRESS (Street/POB/etc) 2050 N Hwy 85
CITY Ajo STATE Az ZIP CODE 85321

Additional Space for Comments:

I urge you to consider all of these things when making your decision regarding this right of way.

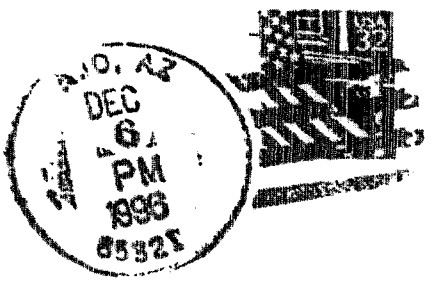
The citizenry of this state, county and community are depending on your support to further our economic growth and well being.

Thank you in advance for your cooperation

Kord M Klinefelter

FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD

Kord M Klinefelter
2050 N Hwy
Ajo AZ 85321



1996 DEC -9 PM 12:45
BUREAU OF LAND MGT
PHOENIX, AR

Bureau of Land Management
Phoenix Field Office
2015 W. Deer Valley Road
Phoenix, AZ 85027-2099

Attention: David Redmond

Regarding: Ajo Improvement Co. 230KV transmission line EA

FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD FOLD

DATE RECEIVED 12/4/96
COMMENT NUMBER 2

AJO IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY ENVIRONMENTAL ASSESSMENT SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

( ) Submitted by Mail (X) Ajo Open House December 4, 1996 ( ) Gila Bend Open House December 5, 1996 ( ) In Person

Please share your ideas, comments, and concerns in the space provided below. Fold this form, staple or tape it shut, attach postage, and return to the BLM by January 3, 1997. If you prefer, you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 85027-2099
602/780-8090

I RECOMMEND THAT THE HEIGHT OF THE PROPOSED POWER LINE BE LIMITED TO THAT OF THE EXISTING LINE WHERE THE LINE CROSSES THE EXTENDED CENTER LINE OF RUNWAY 12 - 30 OF AJO MUNICIPAL AIRPORT

Please help us keep our mailing list accurate and up to date by returning a master mailing list data entry form. You may enclose the form with this comment sheet.

LAST NAME MARCUS FIRST NAME ERIC INITIAL B
TITLE (OPTIONAL) OWNER
ORGANIZATION NAME (if applicable) AJO AIRPORTER
MAILING ADDRESS (Street/POB/etc) P.O. Box A
CITY AJO STATE AZ ZIP CODE 85321

DATE RECEIVED 12/6/96

COMMENT NUMBER 1

SALT RIVER PROJECT IMPROVEMENT CO. 230 KV TRANMISSION LINE RIGHT-OF-WAY
ENVIRONMENTAL ASSESSMENT
SCOPING COMMENT SHEET

SUBMIT COMMENTS BY: January 3, 1997

(X) Submitted by Mail ( ) Ajo Open House December 4, 1996 ( ) Gila Bend Open House December 5 1996 ( ) In Person

Please submit your ideas, comments, and concerns in the space provided below. Fold this form, staple or tape it shut, attach postage, and return to the BLM by January 3, 1997. If you prefer, you may send a letter instead of this comment sheet by January 3, 1997. For additional information, please contact:

David Redmond, BLM Phoenix District
2015 West Deer Valley Road, Phoenix, Arizona 85027-2099
602/780-8090

THE TIME FOR PERMITS TO BE ISSUED.

THE COST OF GETTING PERMITS IS TOO EXPENSIVE.

THE TIME LOST IS RIDICULOUS.

TOO MUCH RED TAPE.

Please help us keep our mailing list accurate and up to date by returning a master mailing list data entry form. You may enclose the form with this comment sheet.

LAST NAME HARRIS FIRST NAME JUNE INITIAL D
TITLE (OPTIONAL)
ORGANIZATION NAME (if applicable)
MAILING ADDRESS (Street/POB/etc) 1820 W. ROCALLA
CITY AJO STATE AZ. ZIP CODE 85321

EXHIBIT J-3
MEETING AND PUBLIC NOTICES

Ajo Copper News

Hollister David, Publisher
Gabrielle David, Editor
Michelle Pacheco, Advertising Manager

P. O. Box 39
Ajo, Arizona 85321
Fax 520-387-7505 • Phone 520-387-7688

STATE OF ARIZONA)
) ss.
COUNTY OF PIMA)

Hollister David deposes and says that he is the publisher of the *Ajo Copper News*, a weekly newspaper of general circulation and established character, published weekly at Ajo, Pima County, Arizona, and that

Notice Public Meetings

a correct copy of which is attached to this affidavit, was published in the said Ajo Copper News every week in the newspaper proper and not in a supplement for

Publ. November 13, 1996

Hollister David, Publisher,
Ajo Copper News

Sworn to and subscribed before me, a Notary Public in and for the County of Pima, Arizona, this 7 day of February 1997.

Notary Public

OFFICIAL SEAL
MICHELLE A. PACHECO
Notary Public - State of Arizona
PIMA COUNTY
My Comm. Expires Mar. 1, 1999

NOTICE Public Meetings

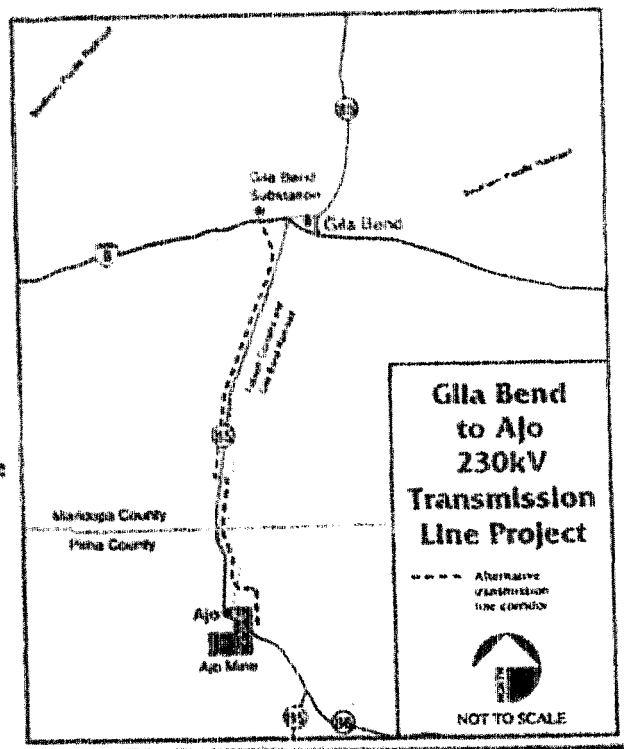
The Bureau of Land Management has received an application for a right-of-way from the Ajo Improvement Company for a 230kV transmission line from Gila Bend to Ajo. The proposed route for the transmission line will travel from the substation west of Gila Bend along the existing 69kV line which is adjacent to Highway 85 and will cross the Barry M. Goldwater Air Force Range to Ajo.

The BLM would like to have your comments concerning the proposed right-of-way

An open house will be held in Ajo on December 4, 1996, at the Ajo High School Dicus Auditorium from 4:00 to 8:00 pm and on December 5, 1996, in Gila Bend at the Gila Bend High School Logan Auditorium from 4:00 to 8:00 pm.

Written comments will be accepted until January [illegible], 1997. Mail comments to Bureau of Land Management, 3015 W. Deer Valley Road, Phoenix, Arizona 85027, Attention: David Redmond.

If you have any questions about the open house, please call David Redmond at 602-780-8090, or for more information in Ajo, call Stacy Quinn at 520-387-7451. Personas quien hablan espatiol se pondrian en contacto con Hector Abrego a 602-780-8090.



AFFIDAVIT OF PUBLICATION

State of Arizona
ss
County of Maricopa

FILE COPY

I, Glen Birchfield, editor of

The Gila Bend Sun,

a newspaper in general circulation, printed and published in the Town of Gila Bend, County of Maricopa, State of Arizona, do solemnly swear that a copy of the above notice is the matter of

Public Notice
for Public Meeting
for

Gila Bend to Ajo 230kV
Transmission Line Project

as per clipping attached, was published weekly in the regular and entire edition of the said newspaper, and not in any supplement hereof, for a period of one consecutive week(s) as follows, to-wit

November 14, 1996

Glen Birchfield

Subscribed and sworn to before me,

this 14th day of November 1996

Joan L. Birchfield
Notary Public

My Commision expires
November 30, 1998

OFFICIAL SEAL
JOAN L. BIRCHFIELD
NOTARY PUBLIC-ARIZONA
MARICOPA COUNTY
My Commission Expires 11-30-98

NOTICE Public Meetings

The Bureau of Land Management has received an application for a right-of-way from the Ajo Improvement Company for a 230kV transmission line from Gila Bend to Ajo. The proposed route for the transmission line will travel from the substation west of Gila Bend along the existing 69kV line which is adjacent to Highway 85 and will cross the Barry M. Goldwater Air Force Range to Ajo.

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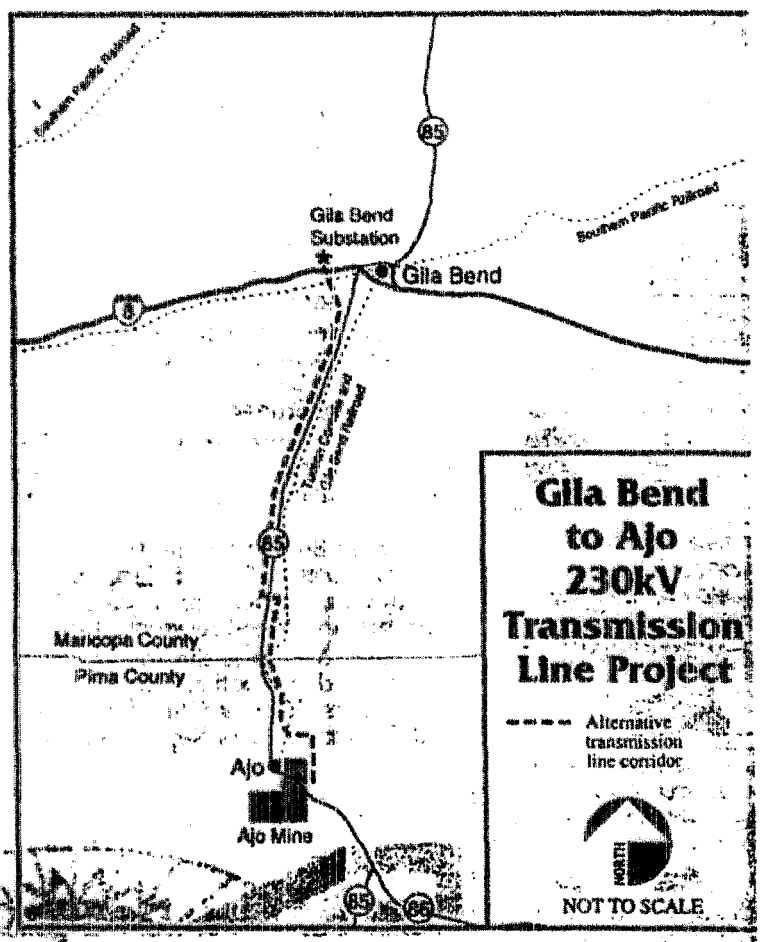
Written comments will be accepted until January 3, 1997. Mail comments to Bureau of Land Management, 2015 W. Deer Valley Road, Phoenix, Arizona 85027, Attention: David Redmond.

If you have any questions about the open house, please call David Redmond at 602-780-8090; or for more information in Ajo, call Stacy Guinn at 520-387-7451. Personas quien hablan español se pondrían en contacto con Hector Abrego a 602-780-8090.



TUCSON PIMA LIBRARY

Tucson-Pima Library
Administration

101 N. Stone Avenue
P.O. Box 27470
Tucson, Arizona
85726-7470

Phone: (602) 791-4391
Fax: (602) 791-2585

5/6/97

Received on this day of 5 April 1997 one copy of the US Dept. of the Interior Environmental Assessment in response to a right of way application for the Gila Bend to Ajo 230kV Transmission Line.

James T. Schnell

James T. Schnell
Supervisor
Ajo Branch Library
33 Plaza
Ajo, AZ 85321

Ajo Copper News

Hollister David, Publisher
Gabrielle David, Editor
Michelle Pacheco, Advertising Manager

P. O. Box 39
Ajo, Arizona 85321
Fax 520-387-7505 • Phone 520-387-7888

STATE OF ARIZONA)
) ss
COUNTY OF PIMA)

PUBLIC NOTICE

The Bureau of Land Management has prepared an Environmental Assessment (EA) and a draft Finding of No Significant Impact (FONSI) for the proposed 230-kV Transmission Line right-of-way from Gila Bend to Ajo. Copies are located at the Ajo and Gila Bend libraries for public review.

Comments on the EA and FONSI must be in writing and must specifically address the documents. For your comments to be considered, they must be postmarked no later than May 27, 1997. Please send them to the attention of the project manager, David Redmond, Bureau of Land Management, 2015 W. Deer Valley Rd., Phoenix, AZ 85027. You may also contact him for additional information at (602) 780-8090.

Hollister David deposes and says that he is the publisher of the *Ajo Copper News*, a weekly newspaper of general circulation and established character, published weekly at Ajo, Pima County, Arizona, and that

Public Notice

a correct copy of which is attached to this affidavit, was published in the said *Ajo Copper News* every week in the newspaper proper and not in a supplement for

Publ. May 14, 21, 1997

Hollister David, Publisher,
Ajo Copper News

Sworn to and subscribed before me, a Notary Public in and for the County of Pima, Arizona, this 23 day of May, 1997

Notary Public

OFFICIAL SEAL
MICHELLE A. PACHECO
Notary Public - State of Arizona
PIMA COUNTY
My Comm. Expires Mar. 1, 1999

PUBLIC NOTICE
Proposed Transmission Line
Available for Public Review

The Bureau of Land Management has prepared an Environmental Assessment (EA) and a draft Finding of No Significant Impact (FONSI) for the proposed 230-kV Transmission Line right-of-way from Gila Bend to Ajo. Copies are located at the Ajo and Gila Bend libraries for public review.

Comments on the EA and FONSI must be in writing and must specifically address the documents. For your comments to be considered, they must be postmarked no later than May 27, 1997. Please send these to the attention of the project manager, David Redmond, Bureau of Land Management, 2015 W. Deer Valley Rd., Phoenix, AZ 85027. You may also contact him for additional information at (602) 780-8040.

Number of publications:2. Dates of publication: May 15 & 22, 1997.

AFFIDAVIT OF PUBLICATION

State of Arizona
ss
County of Maricopa

FILE COPY

I, Glen Birchfield, editor of

The Gila Bend Sun,

a newspaper in general circulation, printed and published in the Town of Gila Bend, County of Maricopa, State of Arizona, do solemnly swear that a copy of the above notice is the matter of

Public Notice
for

BUREAU OF LAND MANAGEMENT
ENVIRONMENTAL ASSESSMENT

as per clipping attached, was published weekly in the regular and entire edition of the said newspaper, and not in any supplement hereof, for a period of two consecutive week(s) as follows, to-wit

May 15 & 22, 1997

Glen Birchfield

Subscribed and sworn to before me,

this 22 day of May 1997

Notary Public

My Commission expires:
October 14, 1998

CONWAY R. HOOKER
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires Oct 14, 1998

EXHIBIT J-4
FACT SHEET

FACT SHEET

Gila Bend to Ajo 230kV Transmission Line Project Environmental Assessment

December 1996

Project Description

The Bureau of Land Management (BLM) Phoenix Field Office will be directing the preparation of a third party environmental assessment (EA) in compliance with the National Environmental Policy Act (NEPA) to analyze the potential impacts related to the construction and operation of the proposed Gila Bend to Ajo 230kV Transmission Line Project. Ajo Improvement Company is proposing to build and operate approximately 47 miles of 230kV transmission line from Gila Bend to Ajo. The proposed route for the transmission line will be from the substation west of Gila Bend following the existing 69kV line along the highway across the Barry M. Goldwater Air Force Range to Ajo. The proposed transmission line structure is a single wooden pole, typically 55 to 100 feet above ground, spaced 250 to 700 feet apart. The transmission line would provide electric service to the Phelps Dodge Ajo, Inc. Mine Reopening Project.

Appropriate federal, state, county, and local agencies and public interest groups will be contacted and consulted throughout the EA process. The objectives of the EA and related activities will be to study and assess the potential impacts of the proposed project on various environmental resources including biological (e.g., threatened or endangered species), cultural, visual, land use, socio-economic, geologic, soils and water.

The accompanying map shows the proposed project study area and the proposed transmission line corridor selected for further evaluation.

Public Participation and Environmental Analysis Process

The process of conducting environmental and engineering studies to identify a suitable location for the project is ongoing. Studies are being conducted in cooperation with the BLM to determine the location of corridors suitable for this type of use. A potential transmission line corridor has been identified. However, the BLM is seeking comment from the public, federal, state, and local agencies, and potentially affected landowners for this project.

The EA will be prepared by Dames & Moore, an environmental consulting firm, under the direction of the BLM. Environmental and engineering studies are currently being conducted to identify and evaluate the proposed action and alternatives for the project, including a "no-action" alternative.

The purpose of this fact sheet is to give you an opportunity early in the project to comment on the proposed project. Comments on this proposed project must be received by January 3, 1997. A self-addressed comment form is available to provide any comments you have on the project.

In addition to this fact sheet, two public open houses are being held to discuss the proposed project and EA. These meetings will be held at the following time and locations:

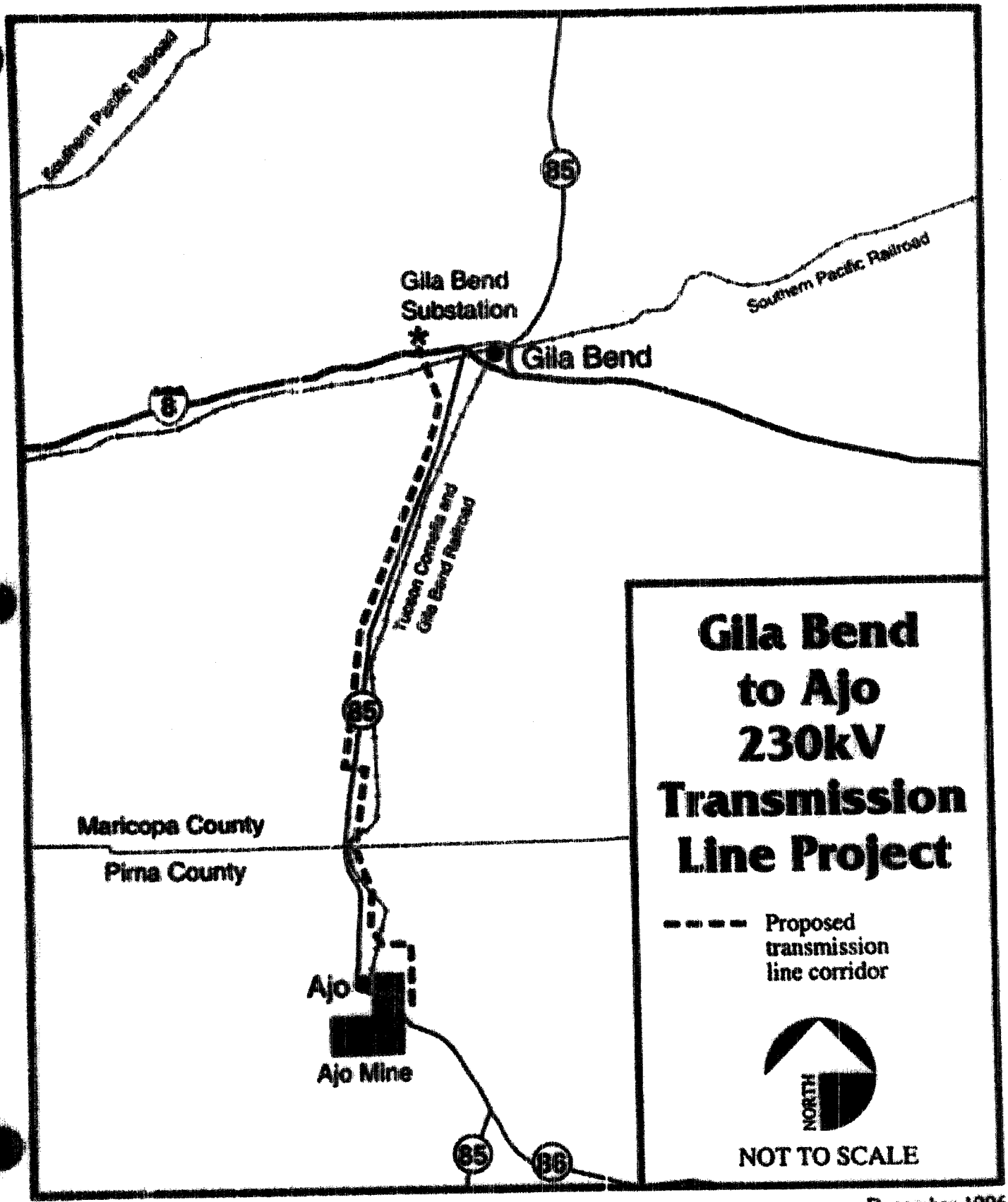
December 4, 1996
4:00 to 8:00 p.m.
Ajo High School
Dicus Auditorium

December 5, 1996
4:00 to 8:00 p.m.
Gila Bend High School
Cafeteria

We look forward to your comments. If you need additional information or if you have questions concerning the project, please contact:

Dave Redmond
Bureau of Land Management
Phoenix Field Office
(602) 780-8090

Personas quien hablan español se pondrían en contacto con Hector Abrego a BLM (602) 780-8090.



December 1996

OVERSIZED

DOCUMENT

Map

Exhibit A-1

SEE SUPERVISOR
(EXHIBIT CABINET)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099

In reply refer to:
2800(020)
AZA-29804

October 22, 1997

Dear Interested Party

The Bureau of Land management has determined that a right-of-way will be issued for the 230kV transmission line from Gila Bend to Ajo, Arizona as described in the Proposed Action Alternative A of the Environmental Assessment prepared in April, 1997. Enclosed is a copy of The Decision Record with a copy of the Addendum to the Environmental Assessment, the Finding of No Significant Impacts (FONSI) and Form 1842-1 Information on Appeals and Standards for Obtaining a Stay

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days of the date of this decision. The appellant has the burden of showing that the decision appealed from is in error. Appeals received by facsimile will not be accepted.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2804.1 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the enclosed Standards for Obtaining a Stay. Copies of the notice of appeal and the petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

If you should have any questions about these procedures please contact David Redmond (602-580-1627).

Sincerely,

Michael A. Taylor
Field Manager

Enclosures

Rediscover Your Public Lands

DECISION RECORD

EA No. AZ-020-97-049

Related No. AZA-29804

Decision: The applied for right-of-way for the Gila Bend to Ajo 230kV transmission line as discussed in the Proposed Action Alternative A, will be granted. Impacts for Alternative A and B are very similar, however, Alternative A has less visual impacts and will be farther from existing residences.

Rationale for Decision:

The applied for right-of-way is within a utility corridor that was established in the Lower Gila Resource Management Plan EIS. There is an existing 69kV transmission line in the corridor.

A Finding of No Significant Impacts (FONSI) resulted from the evaluation of the Proposed Action Alternative A in an environmental assessment.

The proposed right-of-way is within the Barry M. Goldwater Range. To meet concerns of the U.S. Air Force, visual markers will be placed on the wires in accordance with Federal Aviation Administrations regulations.

There will be no significant impacts to any Threatened or Endangered species. The U.S. Fish and Wildlife Service concurred on the "no effect " determination.

Socioeconomic impacts will be minimal from the construction of the power line. Both Ajo and Gila Bend will gain some economic benefit from the construction of the transmission line.

The State Historic Preservation Officer provided concurrence on the survey, eligibility determination and mitigation for cultural resources.

Five tribes were consulted on the project impacts no concerns were identified.

Stipulations:

The Ajo Improvement Company will provide a wildlife biologist monitor, who will arrive at least one hour before construction crews and will remain on site for the entire day. If Pronghorn Antelope are observed no construction activities will take place until the Pronghorn move off to a distance that they will not be disturbed by the construction noise.

A qualified biologist with a State of Arizona permit will sweep the areas of construction looking for desert tortoise. If any desert tortoise are found to be in harms way the biologist will follow the Arizona Game and Fish protocols for moving desert tortoise.

Visual marker will be placed on the wires from the Range 1 gate to a point 2 miles north of Range 2. The markers will conform with the Federal Aviation Administration regulations.

All stipulations provided in the environmental assessment in Table E-1 will be attached to the right-of-way grant.

Phoenix Field Office Manager

10/22/97
Date:

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Name and Number: ENVIRONMENTAL ASSESSMENT FOR THE GILA BEND TO AJO 230kV TRANSMISSION LINE PROJECT, EA No. AZ-020-97-049

BLM Office: Phoenix Field Office

Finding of No Significant Impact:

I have reviewed the Gila Bend to Ajo 230kV Transmission Line (Right-of-Way Application) Environmental Assessment and I have determined that the Proposed Action will have no significant impact on the human environment. An environmental impact statement (EIS) is not required.

The ROW is consistent with utility corridors designated in the Lower Gila South Resource Management Plan (1987), Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and the Natural Resources Management Plan for Luke Air Force Range (1986). Approximately 89% of the proposed transmission line would be constructed within this corridor.

The EA analyzed issues identified through scoping comments made by the public and interdisciplinary team members. The analysis found that these critical elements or concerns are not present or would not be affected by the proposed action: wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields and hazardous and solid waste.

Through appropriate inventories, data collection and analysis, the interdisciplinary team found no significant direct, indirect or cumulative impacts for land use, visual resources, cultural resources, biological resources including special wildlife and plant species, socioeconomics, earth and soil resources, and air quality and noise. Through analysis and consultation, no Native American concerns were identified for the project or for traditional cultural properties. No low income or minority groups would be disproportionately affected.

Determination of Finding: _____ 10/15/97
Lands & Minerals Group Administrator — Date

Approved of Finding: _____ 10/22/97
Phoenix Field Office Manager — Date

"Managing and conserving natural, cultural and recreational resources"

Arizona State Parks

1300 West Washington
Phoenix, Arizona 85007

TTY 602-542-4174
1-800-285-3703
from (520) area code
http://www.pr.state.az.us

General Fax:
602-542-4180

Director's Office Fax:
602-542-4188

September 24, 1997

Michael Taylor, Field Manager
Bureau of Land Management
Phoenix Field Office
2015 W. Deer Valley Road
Phoenix, Arizona 85027

RE: Maricopa and Pima Counties; Proposed 230kv Transmission Line from the Gila Bend Substation to the New Cornelia Mine; DOD-AF and BLM

Dear Mr. Taylor,

Your letter addressing the issues raised in my previous letter regarding the above-referenced undertaking was received in this office on September 5. Regrettably, I was not able to review the matter until recently. I hope this has not unduly delayed your NEPA review process.

Your letter indicates that test excavations will precede construction at two sites, AZ Z:9:17 and 18 (ASM), where poles will be placed in the core area rather than the periphery of the site. Construction in the vicinity of three other sites (AZ Z:1:37, and Z:5:55 and 64) will be monitored by a qualified archaeologist. This strategy follows guidance provided by this office.

You provided a discussion of archaeological context for the prehistoric sites in the project area, prepared by J. Simon Bruder. As noted in my previous letter, context is a necessary component of any evaluation of eligibility. Carol Shull, Keeper of the National Register of Historic Places, and her staff have asked that State Historic Preservation Offices nationwide reemphasize the importance of theme and context in reaching consensus determinations of eligibility in the Section 106 process. Dr. Bruder's *Supplemental Discussion* will be attached to the report and placed in our library.

Please be assured that the SHPO appreciates the impossibility of requiring final engineering of a transmission line in advance of obtaining a right-of-way. In this instance, however, the many references in the report to the possibility of either *no effect* by virtue of avoidance or *mitigation* if the site(s) cannot be avoided suggested that there was greater than usual uncertainty about the location of the new line. You also addressed the issue of impacts arising from routine maintenance activities, a part of project effect, on the archaeological sites. We encourage you to include provision for continued avoidance of impacts to sites in the right-of-way as approved, in any locations where monitoring or testing "reveals sensitive buried remains."

Finally, you have determined that this undertaking will have no adverse effect on historic properties; we concur with that assessment.

As always, your cooperation with this office in considering the impacts of federal undertakings on historic preservation is greatly appreciated. If you have questions or concerns, please call me at (602) 542-7137 or 542-4009.

Sincerely,

Carol Heathington
Compliance Specialist
State Historic Preservation Office

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

8 Jul 97

56 Fighter Wing Range Management Office
56 RMO/ESMP
6605 North 140th Drive
Luke AFB AZ 85309-1934

David Redmond
Project Manager
Bureau of Land Management
Phoenix Field Office
2015 West Deer Valley Road
Phoenix AZ 85027-2099

Dear Mr. Redmond,

Thank you for the opportunity to review the April 1997 Environmental Assessment regarding the installation of a 230kW transmission line from Gila Bend to Ajo, Arizona. Our review comments are attached.

The transmission line will not interfere with flying operations if kept below 100 feet in total height, but we will require visual markers be installed in areas where low-altitude flights occur, to ensure continued flight safety. Markers should be installed in accordance with Federal Aviation Administration requirements, from the Range 1 gate to a point two miles north of the Range 2 gate.

We are still awaiting final review of this document by our staff archaeologist, as requested by the State Historic Preservation Office, Carol Heathington. A copy of these comments will be forwarded to you at a later date.

Please call me at (602) 856-8791 if you have any questions.

Sincerely

Linda J. Woestendiek

LINDA J. WOESTENDIEK
Natural Resources Planner, BMGR

Attachment:
Luke AFB Comments

OFFICIAL FILE COPY

United States Department of the Interior

Fish and Wildlife Service

Arizona Ecological Services Field Office
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
(602) 640-2720 Fax (602) 640-2730

In Reply Refer To:
AESO/ES
2-21-97-I-055
ECN 970782

September 12, 1997

MEMORANDUM

TO: Field Manager, Phoenix Field Office, Bureau of Land Management, Phoenix, Arizona

FROM: Field Supervisor

SUBJECT: Request for Concurrence with the Determination of Effects of the Gila Bend to Ajo 230 kV Transmission Line Project

This memorandum is in response to your request for concurrence with the revised biological evaluation on the Gila Bend to Ajo 230 kV transmission line received in our office on September 11, 1997. The Bureau of Land Management is considering an application from the Ajo Improvement Company (AIC) for a powerline right-of-way from Gila Bend to Ajo. AIC proposes building and operating a 230 kV line to provide electrical service to the Phelps Dodge Ajo, Incorporated (PDAI) mine reopening project. The proposed powerline would extend 47 miles from a substation west of Gila Bend south between the existing 69 Kv line and Highway 85 to a substation in Ajo. The line would be a single-pole design, 82 feet tall, spaced 500 feet apart. An H-frame design 48 feet tall spaced 300 feet apart will be incorporated into the line but restricted to the area of the Ajo airport.

The BLM evaluated the effects of the proposed action including interdependent and interrelated actions and determined that the proposed project may affect but is not likely to adversely affect Sonoran pronghorn (*Antilocapra americana sonoriensis*), lesser long-nosed bat (*Leptonycteris curasoae verbabuenae*), and cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*). The BLM has determined that the reopening mine will remain in the current footprint of the mine and that no suitable habitat exists within the footprint of the mine for either Sonoran pronghorn, lesser long-nosed bat, or cactus ferruginous pygmy-owl. Surveys were done for cactus ferruginous pygmy-owls in the area of the powerline construction where potential habitat exists and none were found. The construction site is not within line of a known roost and foraging habitat and only minimal foraging habitat exists within the construction site. During construction of the power line, a biological monitor will arrive at the construction site at least one hour before the construction crew arrives and will remain on site for the entire day to observe for pronghorn. If pronghorn are observed, construction will be suspended until the animals move off on their own. Construction if necessary will be suspended or the location or timing of work will be altered depending on the proximity of pronghorn to the project.

The Fish and Wildlife Service (Service) has reviewed the revised biological evaluation and concurs with the BLM's determination that the proposed project may affect but is not likely to adversely affect Sonoran pronghorn, lesser long-nosed bat, and cactus ferruginous pygmy-owl.

If there are any questions or if we can be of further assistance, please contact Lorena Wada or Ted Cordery.

Sincerely,

Jan F. Zielke

Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (GMA)

ADDENDUM
GILA BEND TO AJO 230kV TRANSMISSION LINE
ENVIRONMENTAL ASSESSMENT

Modifications to the Gila Bend to Ajo 230kV Transmission Line Project Environmental Assessment (April 1997) are presented below in bold type. Following the modifications, additional information is provided in general response to questions and comments regarding the EA.

MODIFICATIONS

Page numbers noted below refer to the EA for the Gila Bend to Ajo 230kV Transmission Line Project.

Page Number	Modification
1-1	Paragraph 4, second sentence, should be corrected to state: "The proposed transmission line is consistent with the management direction and multiple management framework described in the BLM's Lower Gila South Resource Management Plan and Environmental Impact Statement (1985)."
2-1	Paragraph 1, second sentence, should be corrected to state: "The right-of-way requested is 100 feet wide and approximately 47 miles long, with a term of 30 years."
2-1	Paragraph 2, second sentence, should be corrected to state: "The proposed route is located in designated utility corridors on BLM administered lands for approximately 41.3 miles or 89 percent of the overall project length (Figure 2)."
2-1	Paragraph 3, sixth sentence, should be corrected to state: The majority of the structure locations would be accessed using the existing transmission lines access roads, so there would be limited new overland access.
2-1	Paragraph 5, first sentence, delete: (no blading for new access roads unless authorized by the BLM).
2-6	Paragraph 1, delete third sentence: No blading for new access roads would be allowed unless approved by BLM.
2-6	Paragraph 3, second sentence, replace topping with Pruning.
3-1&3-2	Paragraph 4, replace fourth sentence with: The BMGR is administered by the 56th Fighter Wing, Range Management Office, at Luke Air Force Base.

September 5, 1997

3-2	Paragraph 2, second sentence, should be corrected to state: "As the route extends south through the BMGR, land uses within the study corridor include air and ground military maneuvers, closed airfields, munitions storage sites (at Gila Bend Air Force Auxiliary Field), and target approach corridors."
3-2	Paragraph 4, fifth sentence, replace 20-year with 15-year.
3-9	Paragraph 2, first sentence, should be corrected to state: "Nine special status wildlife species were identified as potentially occurring within the study area (AGFD 1996; BLM 1996a; USFWS 1996)."
3-9	Paragraph 2, insert after first sentence: However, after consultation with BLM specialists, it was determined that the California leaf-nosed bat and the bald eagle would not require further analysis because there is a lack of suitable habitat.
3-9	Paragraph 2, second sentence, should be corrected to state: "The seven special status wildlife species potentially occurring within the study area are described below."
4-12	Table 1, second entry of present projects, correct description to state: "Luke Air Force Base's current 15-year withdrawal terminates in the year 2001; renewal is being actively pursued.
5-1	Column 1, first listing under Federal, should be corrected to state: "U.S. Air Force - Luke Air Force Base, Glendale, Arizona."
D-1	Paragraph 1, delete second and third sentences: The mitigation measures in Table D-1 are applied to the entire project. The measures in Table D-2 are primarily applied at the site specific locations where initial impacts are anticipated to be moderate or high.
D-2 and 3	Table D-1 should be moved from Appendix D to Appendix E and renamed from Standard Mitigation Measures to Table E-2, Standard Industry Operating Procedures.
D-4	Table D-2 should be referred to as Table D-1.
E-1	Appendix E, Standard Operating Procedures, should be referred to as Table E-1.

September 5, 1997

GENERAL RESPONSES

1. Alternatives Considered and Eliminated

Comment: The EA fails to consider a range of reasonable alternatives. The BLM must analyze reasonable alternatives, even if they are beyond BLM's jurisdiction to implement.

Response: The determination and delineation of alternatives to be considered for evaluation is outlined in 40 CFR 1502.14 (a) and (c), and states: "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." Further, "include reasonable alternatives not within the jurisdiction of the lead agency."

Alternatives were evaluated based on how effectively the alternative would meet the purpose and need of the proposed project, conform to planning guidelines established in the BLM's Lower Gila South Resource Management Plan (1987) and BLM's Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and minimize impacts to the environment. The description of the purpose and need states that the proposed transmission line would provide economical and reliable power for copper ore mining, milling, and concentrating operations at the mine. The range of alternatives considered included transmission, generation, and a combination of transmission and generation.

Alternative power sources were evaluated based on quality and reliability. The 230kV transmission line alternatives and the generation alternatives would fulfill the power quality and reliability needs of the proposed mining operations at the Phelps Dodge Ajo, Inc. Mine.

A second 69kV power line would not meet the power quality and reliability need because an analysis of load flows indicated a second 69kV line would result in distribution system flicker problems and voltage drop levels from inrush to start large motors for the sag mill and ball mills. The power quality problems associated with the second 69kV line are directly related the location of the Gila Bend Substation on the fringe area of the electrical grid system, which does not benefit from full grid support. In summary, the 230kV transmission line alternative and the generation alternative would provide a reliable quality power source for the proposed mining operations at the Phelps Dodge Ajo, Inc. Mine and a second 69kV line would not.

The economic considerations of each alternative were evaluated based on estimated costs provided in a table format by the Ajo Improvement Company (AIC) that described the alternatives, economics, and key issues of each alternative. The 230kV transmission line alternative was the least expensive alternative, while the generation alternative and the combination of transmission and generation alternative were two to three times more expensive than the 230kV transmission line alternative.

The analysis of alternatives that are beyond the BLM's jurisdiction occurred similar to the analysis described above. The 230kV transmission line alternative selected as the proposed alternative maximized the use of the utility corridor designated in the BLM's Lower Gila South Resource Management Plan (RMP 1987). It should be noted that an EIS was prepared for the RMP. Further, 230kV alternatives in

addition to the proposed action, identified beyond the BLM's jurisdiction (i.e., Tohono O'odham Nation), did not utilize a designated utility corridor, reduce environmental impact, or have economic advantages, and were not analyzed in the detailed evaluation for these reasons.

In summary, for the Alternatives Considered and Eliminated section of Chapter 2 of the EA the level of analysis conducted and presented is of sufficient detail for the decision makers to determine whether to issue a right-of-way.

2. Impacts Analyzed in the EA

Comment: The EA fails to account adequately for the environmental impacts of the proposed project together with other reasonably foreseeable projects, and the EA fails to take a hard look at the impacts of reopening the Phelps Dodge Ajo Inc. Mine (PDAI).

Response: The Cumulative Effects section of Chapter 4 of the EA analyzed the proposed action with projects that were considered past, present, and reasonably foreseeable future actions. There were three projects identified through comments that are adjacent to the study area that were not included in the cumulative impact analysis including the Yuma Training Range Complex Amendments (YTRC Amendments) Final EIS, FAA Air Route Surveillance Radar Facility (ARSRF) Draft EA, and Cabeza Prieta NWR Draft Comprehensive Management Plan. All three of those projects were considered but not included in the cumulative impact analysis because of the anticipated indiscernible impacts associated with these projects.

The YTRC Amendment's Final EIS evaluated impacts to air space and natural and human resources for the western portion of the Barry M. Goldwater Range up to the Cabeza Prieta NWR. The current operations occur biannually for a total of 12 days, and the proposed action for the YTRC would increase the operations to at least 60 days biannually. The status of the proposed amendment is not confirmed, and therefore an analysis will not be conducted for increased operations. With respect to the existing operations, nondistinguishable effects are anticipated to occur to the natural and human environment when combined with the proposed action.

The ARSRF Draft EA proposes to utilize existing infrastructure at the existing Childs Mountain Radar and Communications Site. From the project area the existing facilities are subordinate to the project setting, and therefore, were not included in the cumulative impact analysis. A similar set of circumstances exist for the Cabeza Prieta NWR Draft Comprehensive Management Plan. The management plan describes a framework for management of resources and recreation activities. The plan describes one action, an interpretive overlook at Childs Mountain, that had the potential to be visible from the study area. Although, because of the use of existing access and facilities at Childs Mountain, this proposed action would be visually subordinate to the project setting and was not included in the cumulative impact analysis.

With regard to the mine reopening, the proposed action for this project is to obtain a right-of-way grant to construct, operate, and maintain a 230kV single circuit transmission line between the Gila Bend

Substation west of Gila Bend to the proposed AIC Substation at the PDAI in Ajo. Direct, indirect, and cumulative impacts were addressed for the proposed alternative with respect to obtaining a right-of-way grant.

The future mine operation was analyzed as a reasonably foreseeable future project that would occur irrespective of the proposed action. As indicated in the description of the no-action alternative, the right-of-way application would not be approved and the 230kV transmission line would not be built resulting in the loss of an economical and reliable power source. AIC would pursue other power options for operations at the PDAI Mine. It has been determined that a sufficient level of detail regarding anticipated cumulative impacts as it relates to the future mine operations has been provided for the decision maker to determine whether to issue a right-of-way grant.

3. Compliance with Current Management Plans

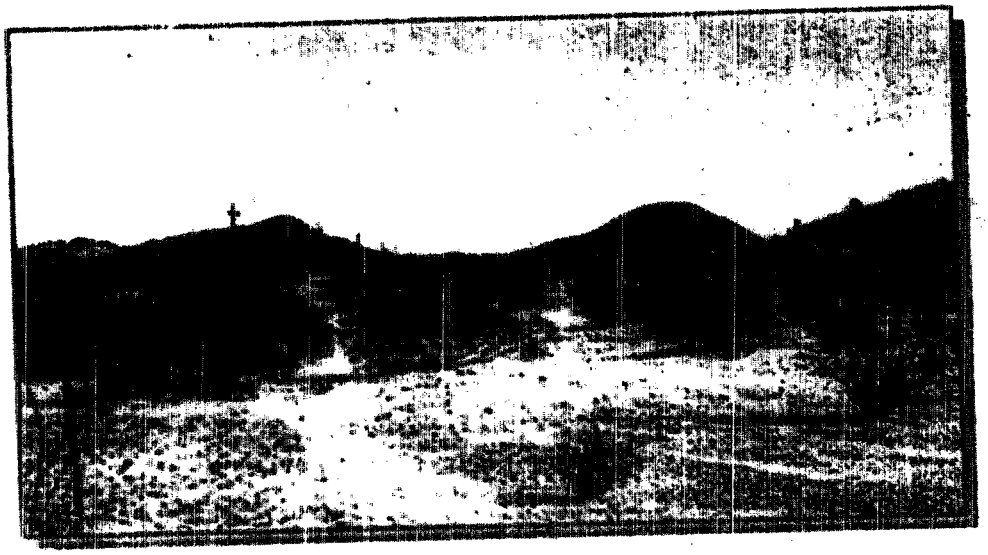
Comment: The EA fails to ensure compliance with FLPMA and the current management plans.

Response: Planning guidelines established in the BLM's Lower Gila South Resource Management Plan and Environmental Impact Statement (1985) and BLM's Lower Gila South Resource Management Plan (Goldwater Amendment 1990) was the basis for establishing alternatives for the proposed project. The 230kV alternative selected as the preferred alternative maximizes the use of the utility corridor designated in the BLM's Lower Gila South Resource Management Plan. Less than two miles or four percent of the total distance of the preferred alternative is not located in a designated utility corridor on lands administered by the BLM. In the EA, Alternative 1 was created to avoid potential significant visual and land use impacts to residences located on private lands adjacent to the existing utility corridor. This alternative was reinforced through public comment received on the Draft EA that requested the decision maker to select Alternative Route A. This alternative route segment is located outside of a designated utility corridor and farther from the residences resulting in reduced visual impacts, which was one of the residences main concerns. The Lower Gila South Resource Management Plan allows for such actions through a case-by-case evaluation policy regarding rights-of-way and other land actions.

GILA BEND TO AJO
230kV TRANSMISSION LINE PROJECT

ENVIRONMENTAL ASSESSMENT

EXHIBIT B-2



Prepared for

U.S.D.I. Bureau of Land Management
Phoenix Field Office

Prepared by

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

APRIL 1997

GILA BEND TO AJO
230kV TRANSMISSION LINE PROJECT

Environmental Assessment

AZ-020-97-049

Prepared for

U.S.D.I. Bureau of Land Management
Phoenix Field Office

Prepared by

Dames & Moore

April 1997

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CHAPTER 1 - INTRODUCTION

BACKGROUND

Ajo Improvement Company (AIC), a subsidiary of Phelps Dodge Corporation, is applying for a right-of-way grant for the construction and operation of a 230 kilovolt (kV) transmission line from the Gila Bend Substation on the west side of Gila Bend, Arizona, to a proposed substation that would be located near the Phelps Dodge Ajo Incorporated Mine (PDAI Mine) on the southeast side of Ajo, Arizona. The project is referred to as the proposed Gila Bend to Ajo 230kV Transmission Line Project. An in-service operating date of 1999 has been proposed for the Gila Bend to Ajo 230kV Project. PDAI is planning to reopen the mine and as a result has identified the need for additional electrical power requirements. After an evaluation of several possible sources of additional electrical capacity, AIC determined that a 230kV transmission line from the Gila Bend Substation to Ajo would best meet the purpose and need. AIC has requested a right-of-way on federal lands (Bureau of Land Management [BLM]) for the proposed project, which will require BLM to comply with the National Environmental Policy Act of 1969 (NEPA) to consider granting the application. The Phoenix Field Office of the BLM is the federal agency responsible for preparing the environmental assessment (EA) in compliance with NEPA.

PURPOSE AND NEED FOR THE PROPOSED ACTION

AIC proposes to construct a 230kV transmission line between the Gila Bend Substation located west of Gila Bend, Arizona, and a proposed substation that would be located at the PDAI Mine in Ajo, Arizona. The proposed transmission line would provide economical and reliable power for copper ore mining, milling, and concentrating operations at the mine.

The proposed PDAI Mine operations would require approximately 45 megawatts (MW) of reliable power to support the proposed operations. The existing Arizona Public Service (APS) 69kV subtransmission line that provides power to the community of Ajo has a capacity of 25 MW. The existing 69kV line would not have the capacity to serve the required 45 MW load for the mining operations. In order to supply an economical and reliable power source to the PDAI Mine, AIC proposes to construct a 230kV transmission line that would have the capacity to supply 45 MW for normal operation.

CONFORMANCE WITH RESOURCE MANAGEMENT PLANS

The BLM (Phoenix Field Office) is the lead federal agency for this EA. The proposed transmission line is consistent with the management direction and multiple use management framework described in BLM's Lower Gila South Resource Management Plan (1987), BLM's Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and the Natural Resources Management Plan for Luke Air Force Range (1986). The proposed project complies with standards and guidelines specified in the Resource Management Plans (RMPs), including the placement of 89 percent of the proposed transmission line in BLM designated utility corridors.

RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

This document is being prepared in compliance with federal guidelines including NEPA and the Council of Environmental Quality Implementation Procedures outlined in Part 40 of the Code of Federal Regulations and Department of Interior and BLM policies and manuals. These guidelines were developed to direct the planning process when designating right-of-way on BLM lands. The environmental planning, consultation, and impact assessment processes have been conducted to comply with all applicable policies and programs of federal, state, and local agencies.

CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION ALTERNATIVE

For the proposed action alternative the BLM would issue to AIC a right-of-way grant to construct, operate, and maintain a 230kV single circuit transmission line between the Gila Bend Substation west of Gila Bend to the proposed AIC Substation at the PDAI Mine in Ajo, Arizona (Figure 1). The right-of-way requested is 100 feet wide and approximately 47 miles long. It is proposed that the transmission line would be located primarily within BLM utility corridors, adjacent to the existing APS Gila Bend to Ajo 69kV subtransmission line and State Route 85 right-of-way.

This alternative route originates at the Gila Bend Substation and proceeds south across Interstate 8 (I-8) and private lands to the State Route 85 corridor paralleling the existing 69kV line within a designated BLM utility corridor to the north side of Ajo. The proposed route is located in designated utility corridors for approximately 41.3 miles or 89 percent of the overall project length (Figure 2). North of Ajo the proposed transmission line alignment proceeds east from the highway corridor. It is in this area of the proposed project that there are two alternative route segments (A and B) for the main proposed transmission line route (Figure 3, inset A). The two alternatives were developed to avoid residential properties that are adjacent to the highway corridor and parallel to the Gila Bend to Ajo 69kV subtransmission line. Alternative A parallels the Barry M. Goldwater Range (BMGR) north of Ajo and then turns south and ties into an existing BLM utility corridor adjacent to the existing Ajo to Why 69kV subtransmission line. Alternative B is a direct diagonal route from State Route 85 to the intersection with the Ajo to Why 69kV subtransmission line. Both alternatives are on lands administered by BLM. Once the route intersects the Ajo to Why 69kV line, it parallels the existing Coffee Pot Connection 69kV subtransmission line, within a designated utility corridor, and proceeds to the proposed AIC Substation.

The transmission line will be constructed using primarily single wooden pole structures. In the vicinity of the Ajo Municipal Airport, wooden two-pole H-frame structures are proposed. See Figure 4 for an illustration of both structures. Typically, the single pole structures would be approximately 82 feet above ground and spaced approximately 500 feet apart. The H-frame structures would be approximately 48 feet above ground and spaced approximately 300 feet apart. The proposed structure locations would be accessed using the existing transmission lines access roads, so there would be limited new overland access. The design, construction, operation, and maintenance of the proposed project would meet or exceed the requirements of the National Electric Safety Code and U.S. Department of Labor Occupational Safety and Health Standards.

During the preconstruction phase, a specific plan of development will be prepared to include mitigation measures (Appendix D) and standard operating procedures (Appendix E). Both would be implemented throughout the life of the project in order to reduce potential adverse environmental impacts.

Construction would last 9 to 12 months and will include overland access (no blading for new access roads unless authorized by the BLM), structure site clearing, digging holes, assembling and erecting structures, wire stringing, cleanup, and site reclamation. Operation and maintenance will be conducted throughout the life of the project. Provided below is a summary description of key construction aspects.

Project Location
Gila Bend to Ajo
230kV Transmission Line Project

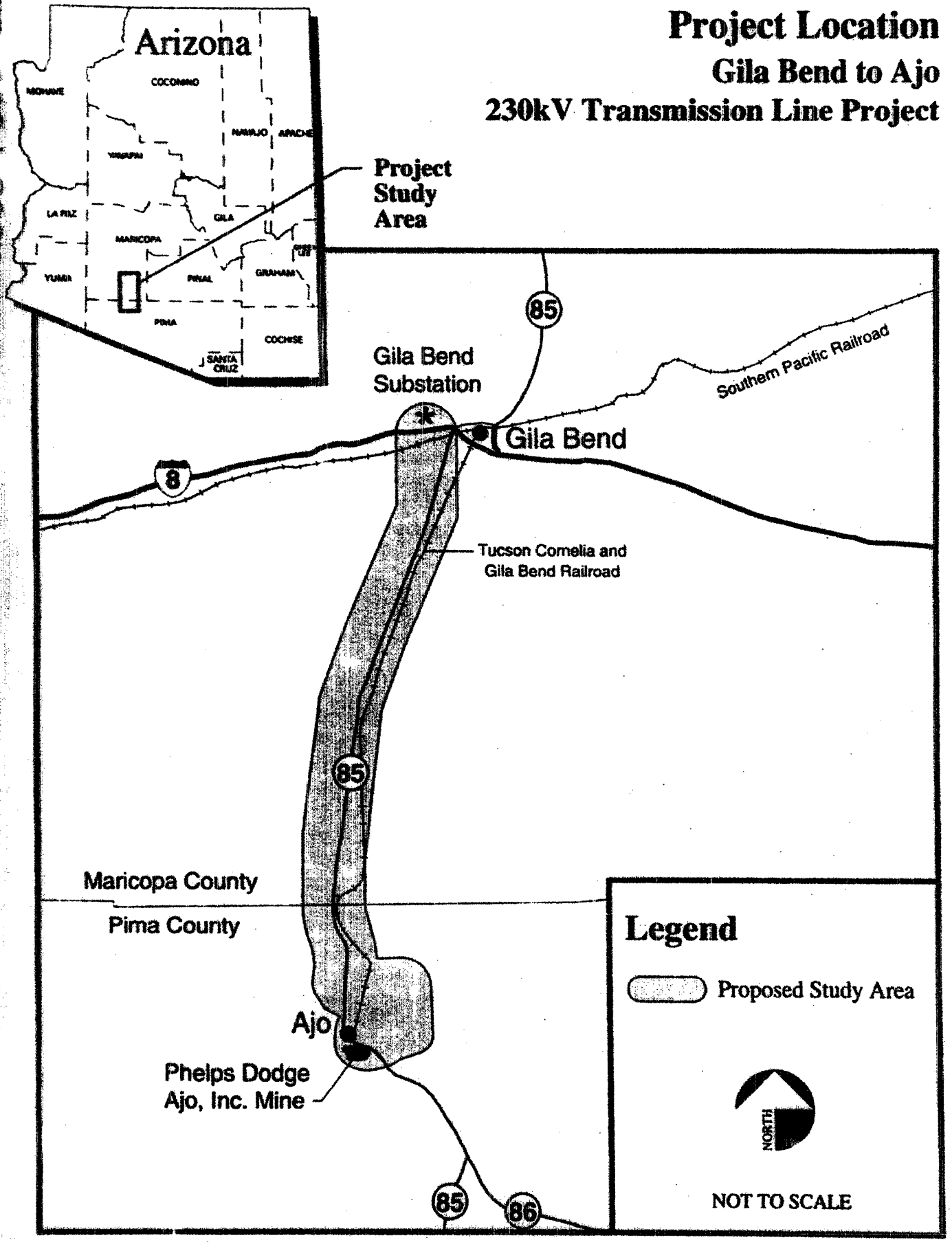


Figure 1

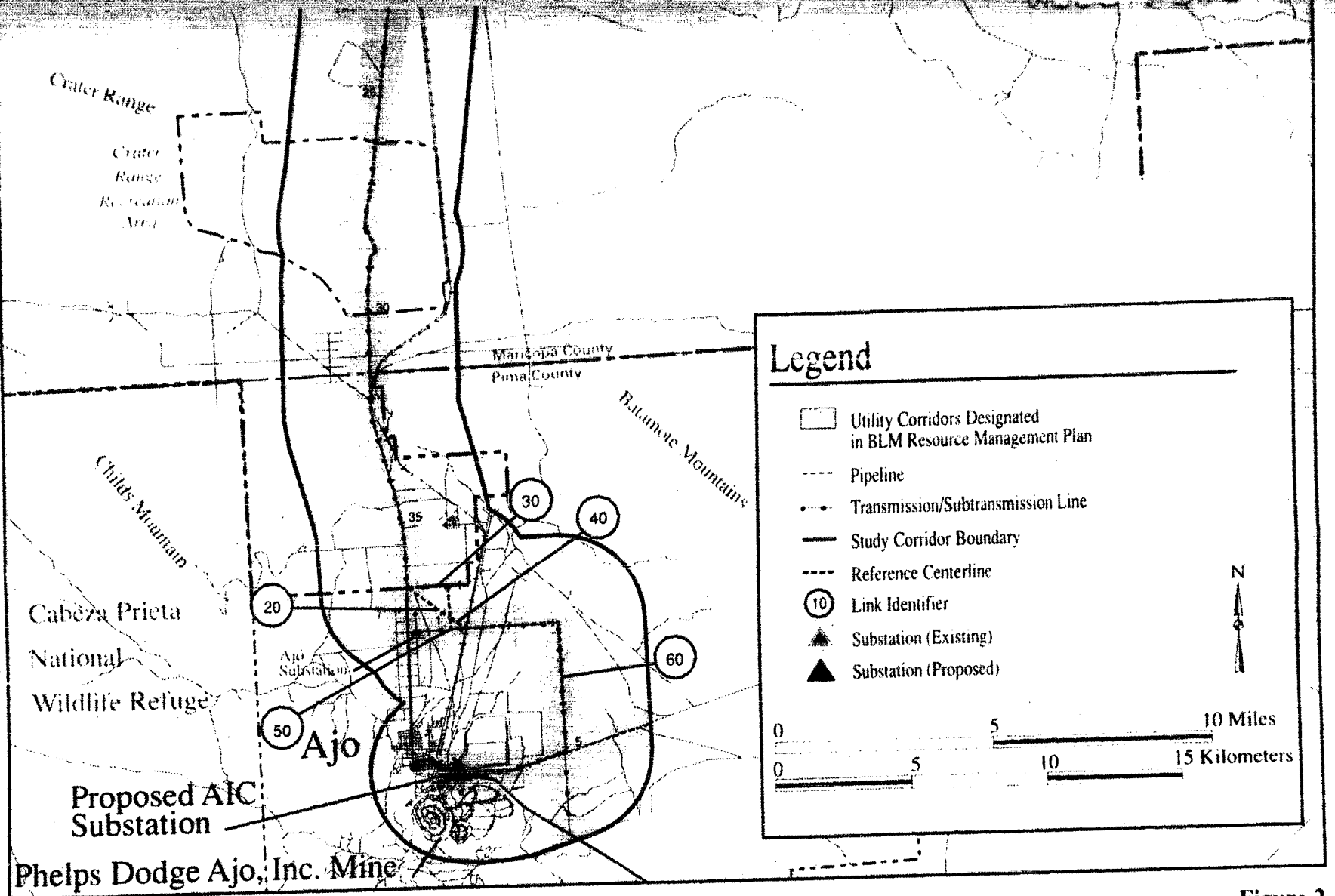


Figure 2

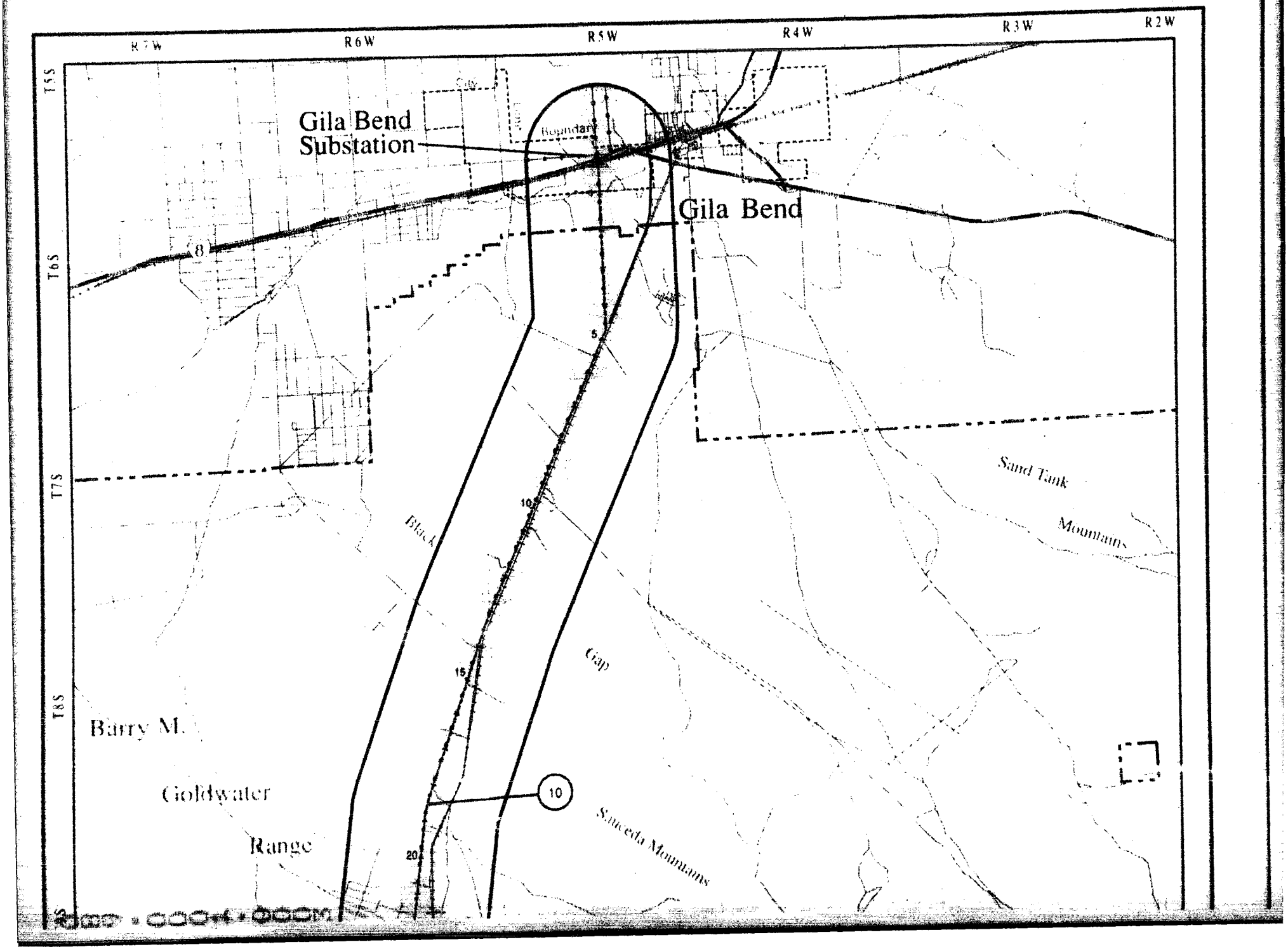
Utility Corridors

Gila Bend to Ajo

230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY


R7W
R6W
R5W
R4W
R3W
R2W
T5S
T6S
T7S
T8S
Gila Bend
Substation
Gila Bend
Boundary
8
5
10
15
20
10
Sand Tank
Mountains
Black
Gap
Sauceda Mountains
Barry M.
Goldwater
Range

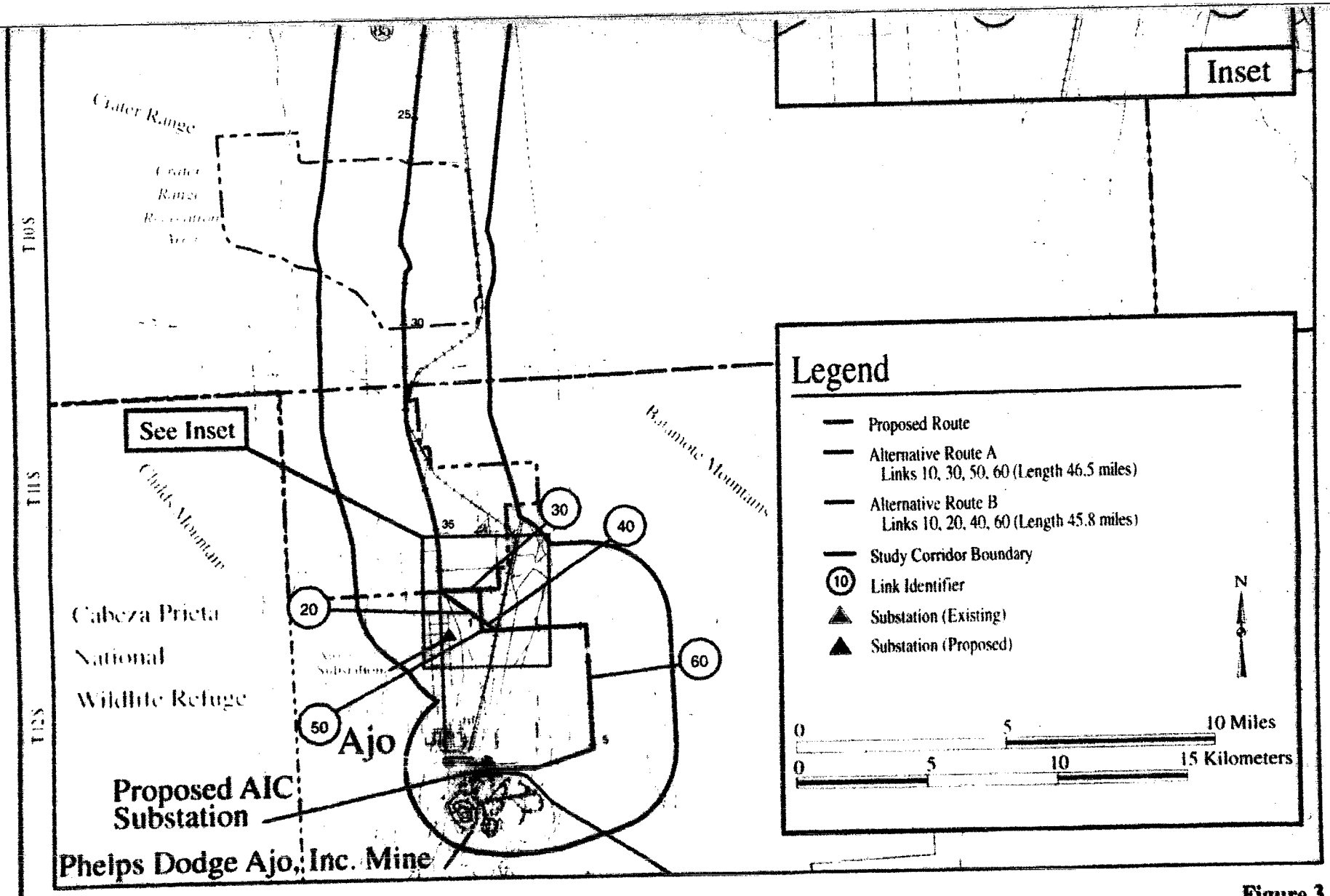


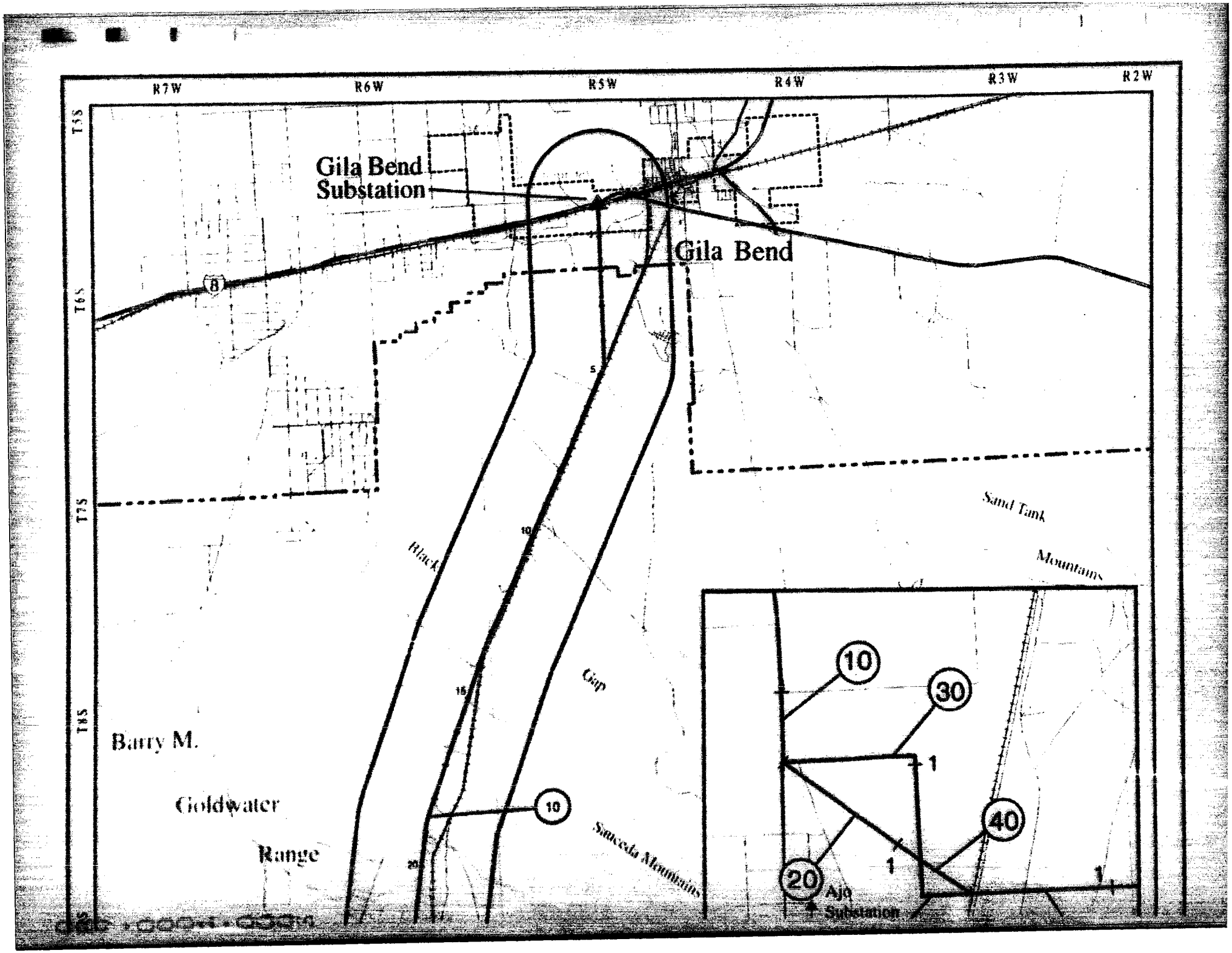
Figure 3

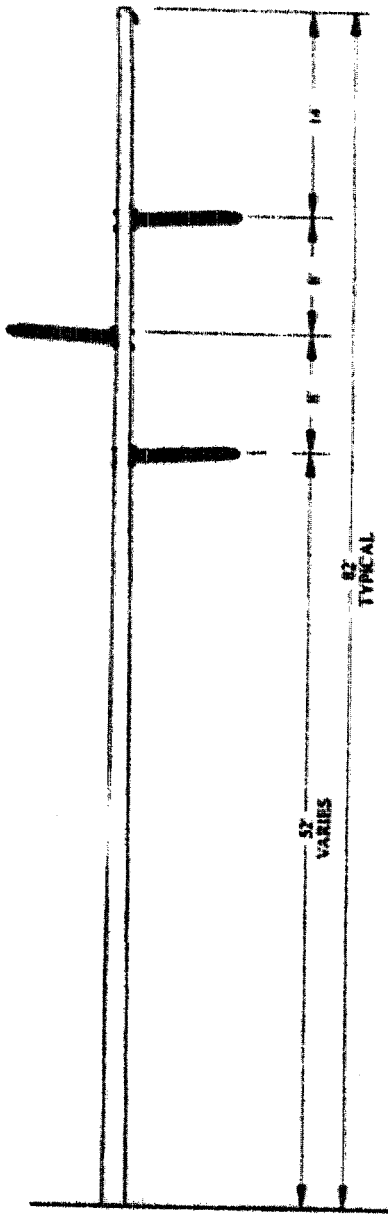
Alternative Routes

Gila Bend to Ajo 230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

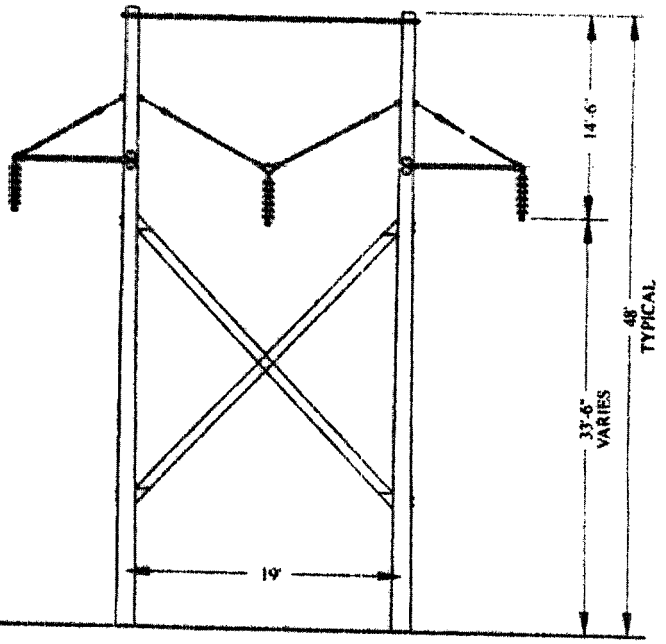
DAMES & MOORE


R7W
R6W
R5W
R4W
R3W
R2W
T5S
T6S
T7S
T8S
Gila Bend Substation
Gila Bend
8
Sand Tank Mountains
Black Cap
Saucedo Mountains
Barry M.
Goldwater Range
10
30
1
40
20
Ajo Substation



Single Wood Pole
230kV Structure

(Structure to be used for the majority of the route)



Double Wood Pole
230kV Structure

(Modified structure to be used in the vicinity of Ajo Municipal Airport)

Typical Structures
Gila Bend to Ajo
230kV Transmission Line Project

Figure 4

Overland Access—Existing roads will be used when the right-of-way closely parallels a utility corridor, or where other existing roads provide adequate access to the line. Where existing roads can be used, only overland spur roads to the structure sites will be required. No blading for new access roads would be allowed unless approved by BLM.

Structure Site Clearing—At each structure site, areas will be needed to facilitate the safe operation of equipment, such as construction cranes or line trucks. The area required for the location and safe operation of cranes and line construction equipment will be approximately 30 by 40 feet. At each site, a work area of approximately 1,500 square feet will be required for the location of structures, assembly, and the necessary maneuvers. The vegetation in the work area will be trampled, not cleared, unless approved by BLM.

Clearing Right-of-way—The clearing of some natural vegetation may be required; however, selective clearing will be performed only when necessary to provide for electrical clearance, line reliability, and construction and maintenance operations. Topping or removal of mature vegetation under or near the conductors will be done to provide adequate electrical clearance as required by National Electric Safety Code standards, if required

Structure Installation—Excavations for poles are made with power equipment. Where the soil permits, a vehicle-mounted power auger or backhoe is used. In rocky areas, the foundation holes may be excavated by drilling, or special rock anchors may be installed. After the hole is augered, poles will be set, backfilled, and tamped using existing spoils. Remaining spoils material will be spread on the ground. The foundation excavation and installation requires access to the site by a power auger, crane, and material hauling trucks.

Structure Assembly and Erection—Poles and associated hardware are shipped to each structure site by truck. Structure assembly and mounting of associated line hardware takes place at each site. The assembled structure is then raised and placed in pre-excavated holes.

Conductor Installation—After the structures are erected, insulators, hardware, and stringing sheaves are delivered to each structure site. The structures are then rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

The ground wire and conductor are strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end. Sites for tensioning equipment and pulling equipment are approximately 10,000 feet apart. The tensioning site is an area approximately 150 feet by 60 feet. Tensioners, line trucks, wire trailers, and tractors which are needed for stringing and anchoring the ground wire or conductor are located at this site. All airspace activities must be coordinated with Luke Air Force Base. The tensioner, along with the puller, maintains tension on the ground wire or conductor. Maintaining tension is required for holding ground clearance and to avoid damage to the ground wire, conductor, or any objects below them during the stringing operation.

The pulling site requires two-thirds the area of the tension site. A puller, line trucks, and tractors which are needed for pulling and temporarily anchoring the ground wire and conductor are located at this site.

Cleanup—Construction sites, material storage yards, and access roads will be kept in an orderly condition throughout the construction period. Refuse and debris, including stakes and flags, will be removed from the sites and disposed of in an approved manner. No construction equipment oil or fuel will be drained on the ground. Oils or chemicals will be hauled to an approved site for disposal. No open burning of construction debris will occur on BLM-administered lands.

Reclamation—Following construction and cleanup, reclamation will be completed. The disturbed surfaces will be restored to original contour of the land surface to the extent necessary as determined by BLM. Water diversions will be constructed along the right-of-way as needed to control surface water and soil erosion. Appropriate BLM-approved site-specific seed mixes will be used where conditions vary. Native plants salvaged from site clearing will be used for revegetation, if appropriate.

Operation—The proposed project will be operated at the Gila Bend Substation and the proposed AIC Substation. The Gila Bend Substation will be operated by APS in Phoenix, Arizona and the proposed AIC Substation will be operated by AIC at the PDAI Mine.

Maintenance—Maintenance of the proposed project would occur yearly with both helicopter and vehicle inspections. Every 10 years a detailed inspection is projected that would include climbing each structure.

NO-ACTION ALTERNATIVE

Under this alternative, the right-of-way application would not be approved and the 230kV transmission line would not be built resulting in the loss of an economical and reliable power source. AIC would pursue other transmission and generation resources to provide power for copper ore mining, milling, and concentrating operations at the PDAI Mine. The pursuit of other transmission and generation sources would result in less economical sources of power that could be subjected to federal regulations, including NEPA compliance, if required.

ALTERNATIVES CONSIDERED BUT ELIMINATED

Generation

AIC explored the use of on-site generation for proposed mining activities. This alternative would not require a BLM right-of-way application for use of public lands and, therefore, did not require further study. However, if the existing power plant at the mine was refurbished to meet the electrical needs of the proposed mining activities, there would be substantially greater cost, water requirements, and air emissions associated with this alternative compared to the proposed action.

Alternative Transmission Systems

The alternative transmission systems considered ranged from reconstructing existing transmission lines to building new transmission lines. The alternatives that were considered include using the existing 69kV

subtransmission lines, building a new 69kV subtransmission line, underbuilding the existing Gila Bend to Ajo 69kV subtransmission line on the proposed 230kV transmission line, and alternative 230kV transmission line routes.

Using the existing 69kV subtransmission line would not fulfill the electrical needs of the proposed mining activities. The electrical capacity of the existing 69kV line is 25 MW, and the mine operation will require approximately 45 MW. Under this alternative the on-site power plant would need to be refurbished as well to produce the remainder of the power needed and result in the same concerns, as stated above.

Building a new 69kV subtransmission line also was considered as an alternative. This alternative would have the same location as the proposed action, but would require substantial modifications to the existing electrical system at the mine. Further, this alternative would not provide as much electrical capacity as the proposed action. Due to the increased cost of on-site electrical system modifications, and inadequate electrical capacity, this alternative was eliminated from further study.

Underbuilding the existing Gila Bend to Ajo 69kV subtransmission line on the proposed 230kV transmission line was considered as an alternative to take advantage of the existing right-of-way. However, this alternative would require taller structures (greater than 100 feet) than the existing or proposed transmission line which could conflict with military operations on the BMGR. Currently, the military has advised AIC that structures shorter than 100 feet would not conflict with military operations on the BMGR. Further, construction and maintenance of the lines would require deenergizing both lines temporarily eliminating power to Ajo. In addition, this alternative subjects both end users of the lines, Ajo and AIC, to the same reliability risks. This alternative was eliminated from further consideration based on the reasons stated above.

In addition to the proposed action, alternative routes for the 230kV transmission line were considered and evaluated by AIC and the BLM. The first 230kV alternative considered proceeded from the proposed AIC Substation to the Sells Substation in Sells, Arizona, generally east of Ajo, continuing to the Tat Momoli Substation (on the Papago Indian Reservation occupied by the Tohono O'odham Nation southeast of Ajo). This alternative was eliminated from further consideration for the following reasons—the route is twice the length of the proposed action which would result in substantially greater costs and would pose additional potential environmental impacts. Furthermore, this route would not be primarily contained within a designated utility corridor. Based on these reasons the route was eliminated from detailed study.

Two alternative routes located in the project study area that were considered for further study and eliminated included the railroad alternative and an alternative located in north Ajo that would have terminated at the Ajo Substation (see Figure 3 inset). The railroad corridor alternative is located east of State Route 85 corridor and generally parallels the proposed alternative. This alternative was eliminated from further study for the following reasons: (1) a greater portion of the transmission line would not be in a designated utility corridor; (2) potential additional visual impacts would occur from the location of transmission lines on either side of State Route 85 rather than consolidated on one side; (3) there also would be a need for new access given the increased distance from State Route 85; and (4) further, potential impacts to land use and visual resources would occur as the railroad traverses through residential areas in Ajo.

The alternative that terminated at the Ajo Substation was evaluated as an option to the alternative routes A and B (see Figure 3). This alternative would have continued south from the northernmost junction of Alternatives A and B for approximately one mile paralleling the existing 69kV line terminating at the Ajo Substation. This alternative was eliminated from further study because it would parallel the existing 69kV line through a residential area (immediately adjacent to residences), likely resulting in potential direct impacts to residential land uses and visual resources.

Alternative Transmission Technologies

Underground construction was considered as an alternative transmission technology. Underground installations are typically preferable under certain constraining circumstances for short distances where an overhead line is not feasible (e.g., in the vicinity of airports or urban centers). They are often desirable for reducing visual impacts, but they demand extremely expensive cooling systems to dissipate the heat generated by the transmission of electricity along the lines, extensive ground disturbance, and other special design requirements. In this project area, a designated utility corridor exists which allows for the placement of an overhead line(s). Therefore, underground construction was eliminated from further consideration.

CHAPTER 3 - AFFECTED ENVIRONMENT

INTRODUCTION

The affected environment addressed for this analysis includes the natural, human, and cultural environment that would be potentially affected by the construction, operation, and maintenance of the Gila Bend to Ajo 230kV Transmission Line Project. The affected environment for the alternative routes is often referred to as the "study area." The following sections explain in detail the existing conditions found throughout the study area. Results for the affected environment section are described by issue areas or links. Links relate to numbered link segments of the alternative routes located on Figure 3. Issue areas or areas of concern are addressed in the appropriate resource sections. Data were collected and analyzed in late 1996 and early 1997 through the review of existing documentation, consultation with various individuals and agencies, and field reconnaissance. Agencies consulted are listed in Chapter 5 and references are contained in Appendix A.

GENERAL PROJECT SETTING

The study area is in southern Arizona between Gila Bend and Ajo (see Figure 1) and is focused on one primary route and two smaller alternative subroutes toward its southern end added to avoid residences located in the north area of Ajo (see Figure 3). The study area is located in the Basin and Range physiographic province, Sonoran Desert scrub section, and would traverse agricultural lands, open plains, and low mountainous terrain in Maricopa and Pima counties. Most of the proposed alternative routes (approximately 89 percent) are located within an existing BLM utility corridor and are discussed as such in each of the resource sections.

LAND USE

The land use inventory identified jurisdiction, existing and future land use, and recreation in the study area based on the review and interpretation of existing maps and documents. The land use study was conducted for a four-mile-wide study corridor (two miles on either side of the assumed centerline). In general, uses in the study area include agriculture, military operations associated with the BMGR, utility crossings, dispersed residences, transportation thoroughfares, airports, mining, and dispersed recreational opportunities.

Jurisdiction

Lands in the study area are primarily under BLM jurisdiction, but there are also areas of state (1 percent) and private (8 percent) ownership. Seventy-five percent of the route is on BLM withdrawn land within the BMGR, a military withdrawal held by Luke Air Force Base (withdrawn under the Military Lands Withdrawal Act of 1986 (Public Law 99-606)). Per the withdrawal, BLM assumes the responsibility for land and natural resource management on the BMGR. The Tactical Air Command of the U.S. Air Force

administers the BMGR through Luke Air Force Base. The remaining 16 percent of the study area is on other BLM lands. Figure 5 illustrates the land jurisdiction in the study area.

Existing and Future Land Use

Existing land uses at the northern end of the study area near Gila Bend include irrigated farm land, rural residences, and the Gila Bend Air Force Auxiliary Field. As the route extends south through the BMGR, land uses within the study corridor include air and ground military maneuvers, closed airfields, munitions storage sites, and target approach corridors. At the southern end of the study area near Ajo, land uses include residential, commercial, public/quasi-public, and industrial areas. The runway approach to the Ajo Airport is approximately 0.3 mile from the proposed centerline. PDAI owns the Ajo Mine facilities and associated tailing ponds that are at the southern end of the study area. Figure 6 depicts existing land uses. No right-of-way is anticipated to be required across any existing residential areas.

Linear features in the study area include utility corridors (i.e., transmission lines, pipelines, and water mains) and transportation corridors. Three BLM designated utility corridors with one-mile-wide widths are located in the study area. They follow the APS Gila Bend to Ajo 69kV subtransmission line, the APS Ajo to Why 69kV subtransmission line, and the El Paso Natural Gas Pipeline from Ajo to Casa Grande. Other utilities in the study area include the APS Gila Bend to Liberty 230kV transmission line, AIC Childs 44kV subtransmission line, and a 30-inch concrete water main from Ajo to Childs. Major transportation routes include I-8; State Route 85; Southern Pacific Railroad line (parallel to I-8); and North-South Tucson, Cornelia, and Gila Bend Railroad line between Ajo and Gila Bend. Utility features are illustrated on the existing land use map (see Figure 6).

Future land uses were identified by reviewing federal, state, county, and local land use plans and agency contacts. Future developments in Gila Bend are outlined in the Gila Bend Master Plan which depicts small amounts of urban expansion south of Gila Bend in the north portion of the study area. Future land uses in Ajo are guided by the Ajo Area Plan developed by the Pima County Zoning Department. Other planned land uses include a home fabricating plant south of Gila Bend along State Route 85, the re-opening of the PDAI Mine in the year 2000, the APS Santa Rosa to Gila Bend 230kV Transmission Line Project in the year 2005, and the actively pursued renewal of the BMGR withdrawal classification by Luke Air Force Base. Luke Air Force Base's current 20-year withdrawal terminates in the year 2001.

Recreation

Recreation uses located in the study corridor include BLM's Crater Range Special Recreation Management Area (SRMA), two roadside picnic/rest areas located along State Route 85 (owned by Arizona Department of Transportation [ADOT]), Ajo Country Club and golf course, Dennison Picnic Area, Ajo equestrian and rodeo grounds, and three community parks in Ajo. Due to the presence of the BMGR and the restricted access that accompanies it, very few dispersed recreation activities such as hiking, hunting, and off-road vehicle use occur within the majority of the study area unless permitted by the BMGR, although dispersed recreational vehicle use does occur at the Sikort Chuapo Wash (Dennison

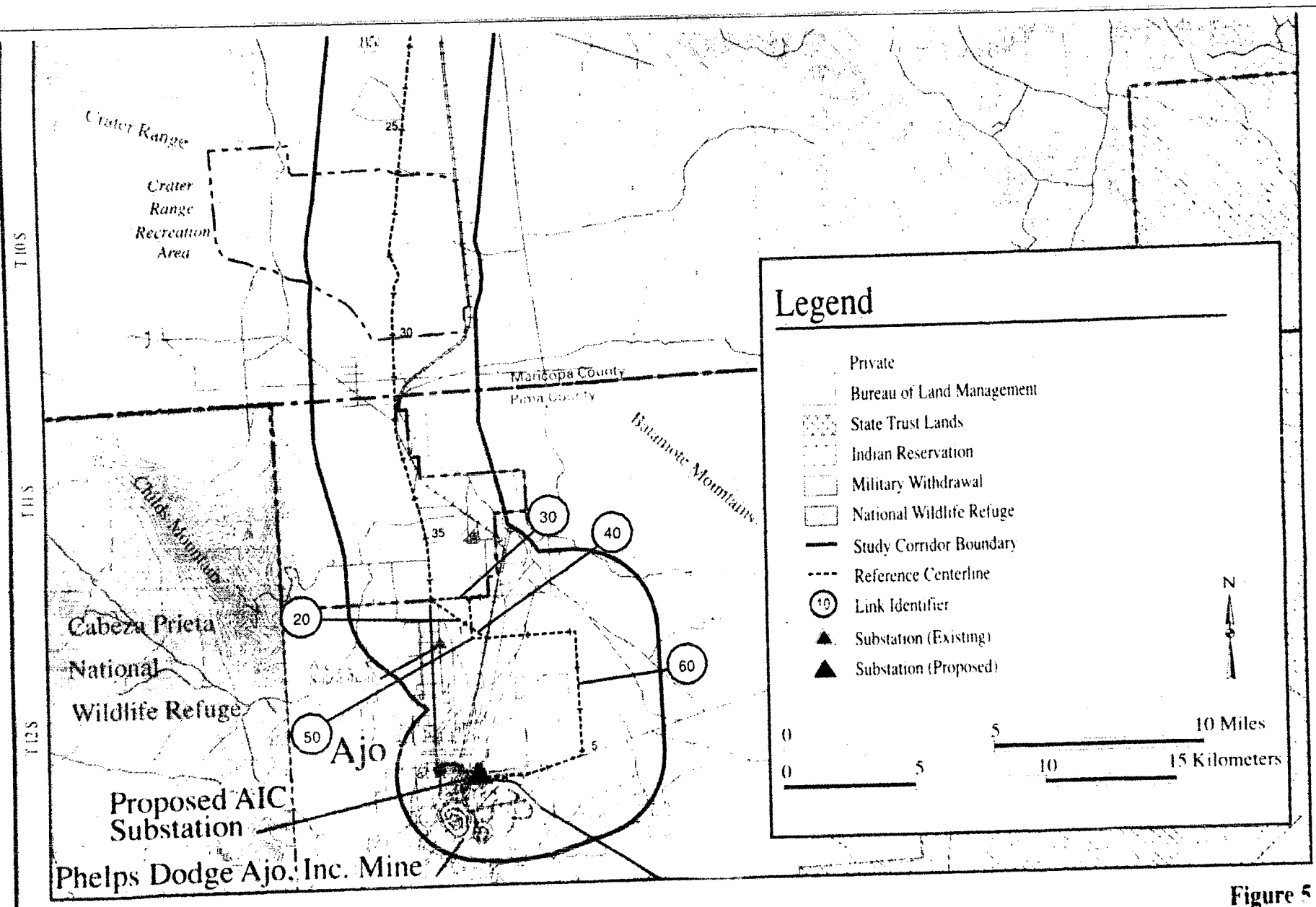


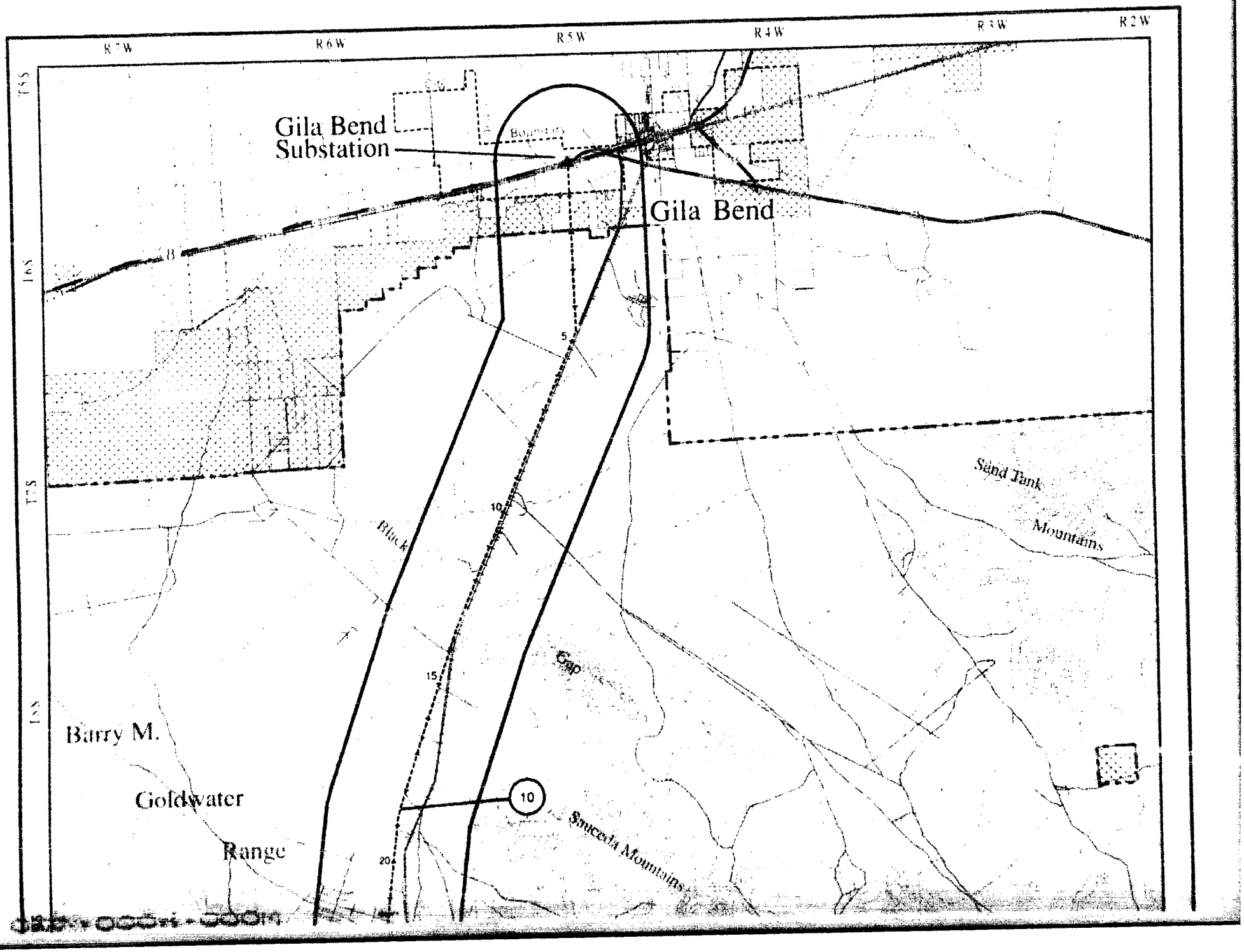
Figure 5

Jurisdiction

Gila Bend to Ajo
230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY


R7W
R6W
R5W
R4W
R3W
R2W
T5S
T6S
T7S
T8S
Gila Bend
Substation
Gila Bend
Sand Tank
Mountains
Black
Gap
Barry M.
Goldwater
Range
Saucedo Mountains
10
5
10
15
20

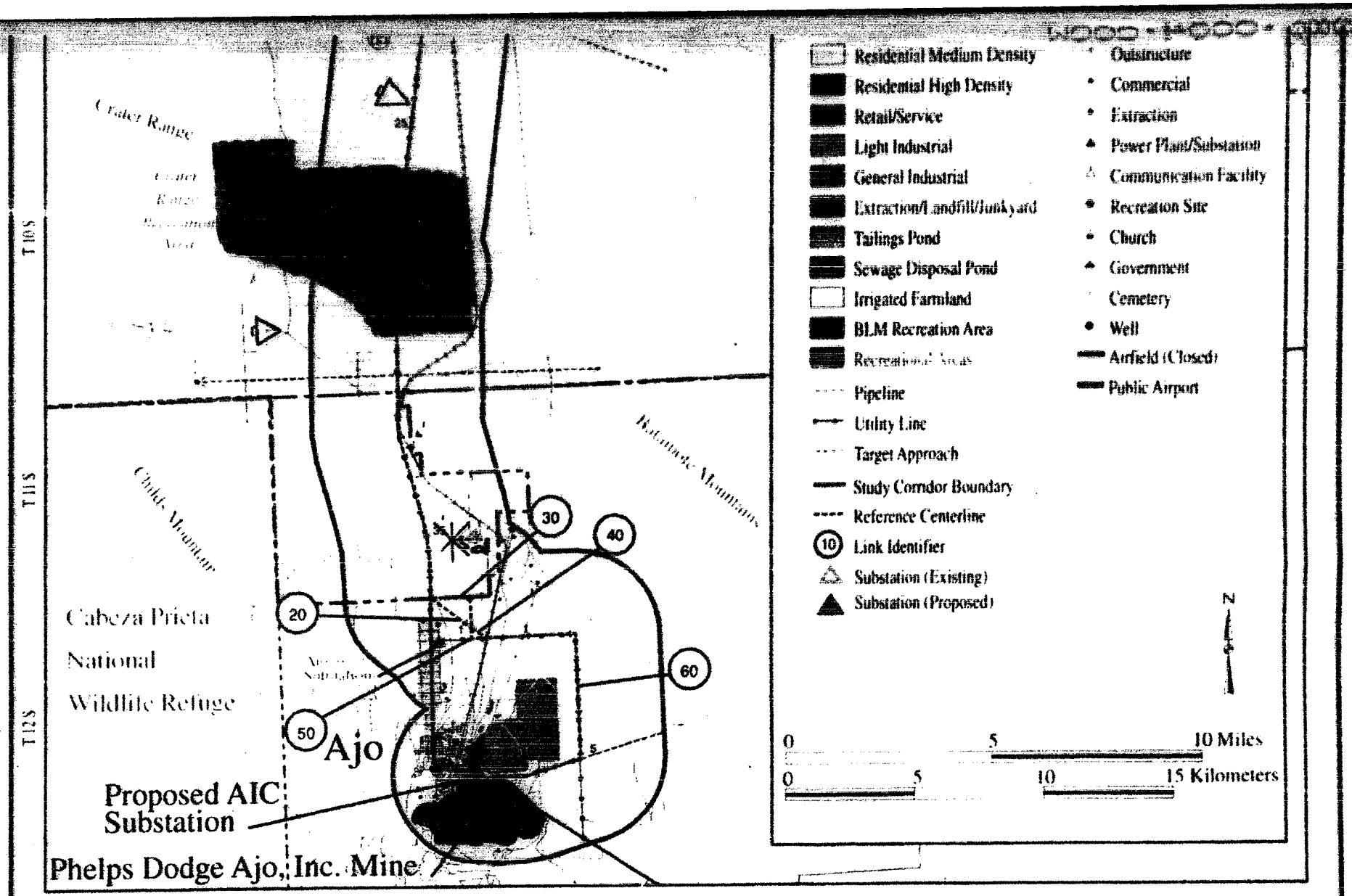


Figure 6

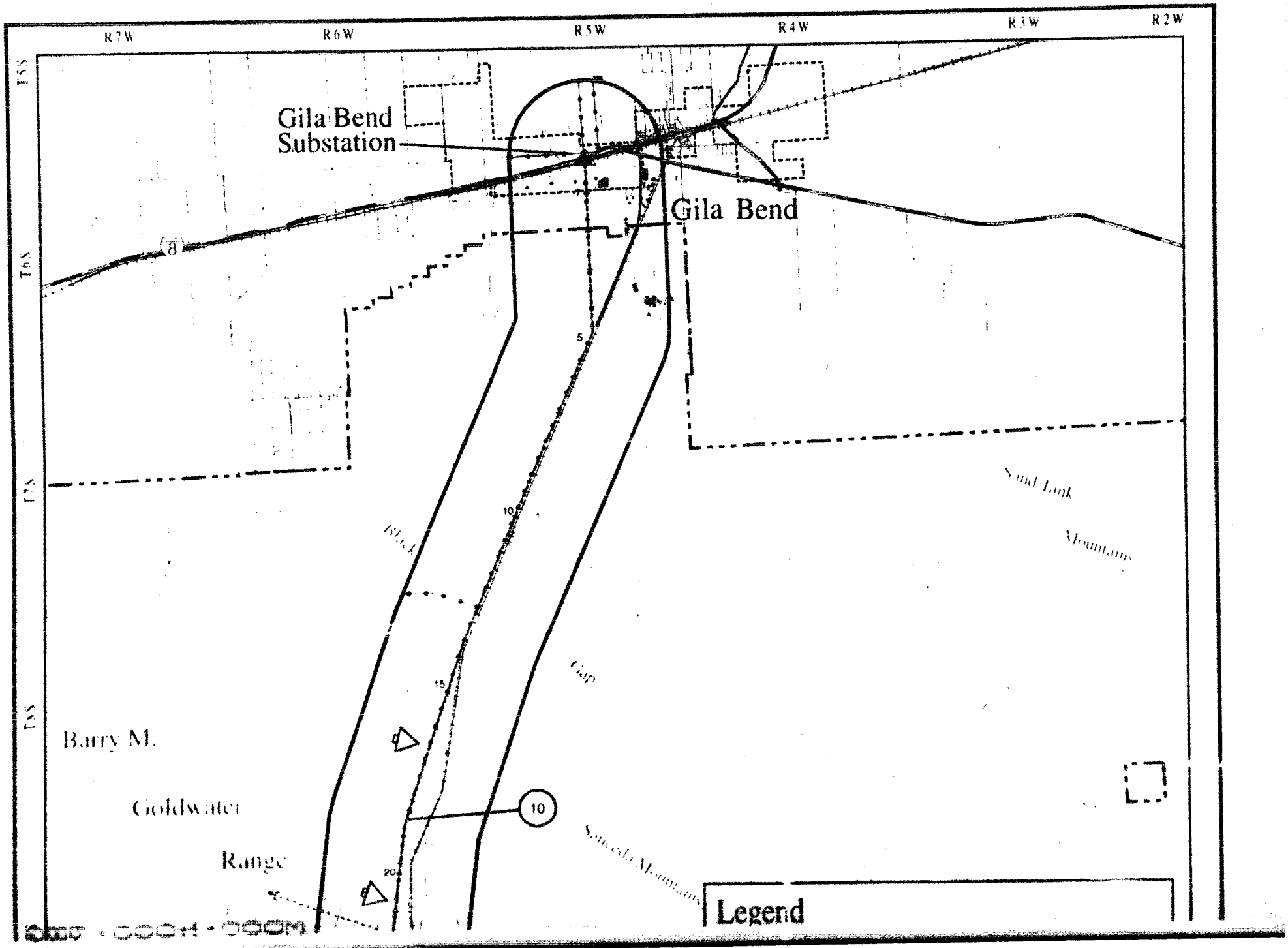
Land Use

Gila Bend to Ajo

230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE


R7W
R6W
R5W
R4W
R3W
R2W
T5S
T6S
T7S
T8S
Gila Bend
Substation
Gila Bend
8
5
10
15
20
Sand Tank
Mountains
Gap
Barry M.
Goldwater
Range
10
Sauceda Mountains
Legend

Picnic Area), and along the proposed scenic loop road south of the PDAI Mine. Recreation sites are illustrated on the existing land use map (see Figure 6).

VISUAL RESOURCES

The visual resource study addressed the inherent aesthetics of the landscape, public value of viewing the landscape, and sensitivity to visual effects from the proposed project. The visual inventory includes an evaluation of the existing visual conditions, visual sensitivity, and agency visual management objectives. A four-mile-wide corridor (two miles on either side of the assumed centerline) was inventoried. The analysis was conducted in compliance with the BLM Visual Resource Inventory (BLM Manual 8410-1, January 1986) (refer to Appendix H for supplemental visual resource data).

The northern terminus of the study area is the Gila Bend Substation, which is located along I-8 approximately 1.5 miles west of Gila Bend. Views from I-8 at the substation include the distant Painted Rock Mountains to the west, Gila Mountains to the north, and Maricopa and Sand Tank mountains to the east. From the substation the proposed route heads south following the existing 69kV subtransmission line across I-8, through agricultural lands on Paloma Ranch, and over the Gila Bend Canal. Fallow agricultural lands and mesquite woodlands quickly change to open rangeland with low shrubs as the proposed route crosses into the BMGR.

Continuing south towards the Black Gap Mountains, views become expansive, while ephemeral water courses, scarce vegetation, and creosote bush-bursage become more present. The proposed route soon joins with State Route 85 and parallels the highway corridor to Ajo. Along the highway, approximately two miles north of the Black Gap, the proposed route crosses over an ADOT rest/picnic area. The site consists of a large parking lot, little vegetation, a covered picnic area, and a temporary restroom. The Black Gap to the south is visually dominant at this rest area along with the existing 69kV subtransmission line and State Route 85.

Past the White Mountains to the west and through the Black Gap, another small (ADOT) rest/picnic area is encountered on the east side of the highway. Views from this rest area include the Sauceda Mountains to the east, Crater Range to the far south, and the 69kV subtransmission line and State Route 85 to the east. Tourists and locals also use this site to view practice bombing runs on the BMGR throughout the day. The Sauceda Mountains contain various relief and elevation changes up to 3,500 feet. The topography of these mountains is volcanic in nature, and includes dramatic spires, buttes, and cliffs. Dark red colored rock contributes to the landscape setting and local vegetation.

When approaching the Crater Range Recreation and Natural Area, views are dominated by steep and irregular eroded slopes of volcanic rock ridges. The Crater Range is a scenic area with unique varied vegetation and jagged rock outcrops with distinctive color patterns. Vegetation includes paloverde, saguaro, creosote bush-bursage, and various cholla. This landscape is classified as Scenic Quality A landscape by the BLM. Cultural modifications include State Route 85, the existing single-pole wood subtransmission line, and barbed wire fences outlining the ADOT right-of-way and the BMGR boundary.

Entering into the Ajo Valley, viewers are surrounded by the Batamote Mountains to the east, Pozo Redondo Mountains to the south, and Little Ajo Mountains to the west. The enclosed valley includes low rolling landforms and varied vegetation consisting of creosote bush-bursage, mesquite, saguaro, ironwood, and various cholla. Ephemeral washes and arroyos support vegetation, and mesquite and ironwood can be found along the foothills of the Batamote Mountains. Other views approaching Ajo include military practice missions and distant views of stockpiled developmental rock from the historic mining operations at the PDAI Mine.

South of the airport, before reaching rural residents north of Ajo, the route splits into two alternative routes. Alternative Route A is farthest from residences. Alternative Route B has 10 residences within a half mile. Other cultural modifications near Ajo include distribution lines, pipeline corridors, mining activities, golf course, and distant views from rural residences.

The proposed alternative continues following the existing 69kV subtransmission line corridor east, then south around the PDAI Mine tailing ponds, intersecting with the El Paso Natural Gas pipeline corridor. At this juncture the proposed alternative turns west, following the pipeline corridor to the proposed substation location on the PDAI Mine site in Ajo. Views of the proposed substation and transmission corridor would be screened from view due to vegetation and fencing. Dominant features in the Ajo landscape include the PDAI Mine with developmental rock piles, tailing ponds, and other ancillary mine facilities. Vegetation in this narrow rolling valley includes creosote bush, desert scrub, and an occasional saguaro cactus.

Visual Sensitivity

Key observation points include major travel routes, recreation areas, hiking trails, rural communities, and dispersed residences. Key observation points and associated visual sensitivity levels in the study area were reviewed by the BLM Phoenix Field Office. These points included I-8; State Route 85; Crater Range SRMA; the proposed scenic loop road (south of PDAI Mine); Dennison Recreation Site; ADOT rest areas; Ajo Golf Course; the Ajo Equestrian and Rodeo Ground; and rural communities, residences, and dispersed residences near Gila Bend and Ajo. All travel routes and recreation areas were identified as moderate sensitivity, and residences were identified as high sensitivity. The visual sensitivity reflects the degree of public concern for change in the landform, vegetation, water, color, and cultural or man-made features in the surrounding landscape or key viewing areas. Visual sensitivity levels (high or moderate) reflect the sensitivity of the viewpoint and viewer concern for change, volume of use, public and agency concerns, influence of adjacent land uses, and viewing duration.

Agency Management Objectives

Mapping and descriptions of Visual Resource Management (VRM) classes and special management areas were obtained from Lower Gila South RMP and the Lower Gila South RMP (Goldwater Amendment). The project area is predominantly VRM Class IV, with one small area of VRM Class II (in the Crater Range SRMA), and two areas of Class III (in the Black Gap and agricultural lands southwest of Gila Bend) (refer to Appendix H for BLM VRM Classifications).

CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Cultural resources include prehistoric resources, ethnohistoric resources or traditional cultural properties, and historic era resources. The Council on Environmental Quality regulations (§1502.25) encourage agencies to coordinate compliance with NEPA with other environmental review and consultation requirements, including those of the National Historic Preservation Act (NHPA). Compliance with Section 106 of the NHPA generally is accepted as demonstration of the consideration of cultural resources mandated by NEPA. Compliance with Section 106 requires identification of potential impacts upon cultural resources that are determined eligible for listing on the National Register of Historic Places. Cultural resources that are determined eligible for listing are labeled "historic properties," and can include prehistoric and historic era archaeological sites, buildings, structures, districts, and objects.

The cultural resources inventory was accomplished through (1) examination of existing records, (2) intensive pedestrian inventory of areas not previously inventoried, and (3) consultation with Native American groups with potential concerns about the project area. The Native American consultation was conducted by the BLM, and was initiated with letters followed by telephone contacts by BLM Phoenix Field Office representatives (consultation continues). Contacted groups include the Tohono O'odham Nation, Hia Ced O'odham Alliance, Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, and Hopi Tribe. In addition to Tribal leaders, cultural preservation specialists were contacted where they have been officially designated along with tribal leaders.

An examination of records at the Arizona State Museum, Arizona State University Department of Anthropology, BLM Phoenix Field Office, and Arizona State Historic Preservation Office (SHPO) demonstrated that the entire ADOT right-of-way proposed for installation of the 230kV transmission line as well as one immediately adjacent to the study area have been intensively inventoried recently. Twelve archaeological sites, one property containing aspects of both a site and a structure, and three historic age structures had been recorded as reported by Hathaway (1995) and Rogge and others (1995). Following the records search, an intensive pedestrian inventory was conducted throughout those portions of the alternative corridors beyond the ADOT right-of-way. Three additional archaeological sites were recorded during that survey. The results of the most recent inventory are documented by Bruder and others (1997), along with a reevaluation of the National Register eligibility of the previously recorded properties and an assessment of the probable effect of the proposed transmission line on those resources. No traditional cultural properties were identified, nor were any concerns about cultural resources expressed to the BLM by representatives of the six Native American groups contacted. The cultural resources inventory is summarized in Table B-1, Appendix B. The BLM will consult with the Arizona SHPO prior to issuance of a decision record under NEPA to request concurrence with their determinations of eligibility and project effect.

BIOLOGICAL RESOURCES

Vegetation

The two subdivisions of Sonoran desertscrub within the study area include the Lower Colorado River Valley Subdivision and the Arizona Upland Subdivision. The Lower Colorado River Valley Subdivision, the most prevalent vegetation type in the proposed study area, is characteristic of the broad, flat alluvial valleys and plains that separate northwest-southeast trending mountain ranges throughout western and south-central Arizona (Turner and Brown 1994). Creosote bush is the most common species in the area along with burro bush or triangle-leaf bursage. Microphyll woodlands are associated with drainageways within Sonoran desertscrub and are often present in low-lying areas around developed facilities such as highways and railroads. These woodlands are characterized by the dominance of large shrubs and small tree species of mesquite, blue paloverde, ironwood, smoketree, and desert broom. Washes in the area which support microphyll woodlands include Quilotosa Wash south of Gila Bend and Tenmile Wash north of Ajo. Other common associates are white ratany, big galleta, and white bursage. Winter and spring annual species include fiddleneck, cryptantha, spiny herbs, mustards, comb bur, filaree, wooly plantain, arabian grass, and six-weeks fescue are present during wetter years.

The Arizona Upland Subdivision is limited to rocky slopes of the Crater and Sauceda mountains. It generally appears as woodlands characterized by mesquite, paloverde, and ironwood trees. Intervening spaces occupied by a large variety of shrubs and cacti can be found on slopes, broken ground, and multi-dissected sloping plains (Turner and Brown 1994). This subdivision is not well represented within the study area though rabbitbrush and paloverde are present.

Wildlife

Wildlife species that occur in the study area are characteristic of those within the Lower Colorado River Valley Subdivision of the Sonoran Desert, primarily creosote bush-bursage associations (Turner and Brown 1994). Species observed in the study area include kangaroo rats, pocket mice, white-throated wood rats, gray fox, kit fox, javelina, coyote, mule deer, and Sonoran pronghorn.

Bird species breeding in the vicinity and associated with the microphyll woodlands include roadrunner, Gambel's quail, loggerhead shrike, great-horned owl, and lesser nighthawk. Birds which breed in the vicinity but not within the study area consist primarily of neotropical migrants such as white-winged dove, ash-throated flycatcher, brown-crested flycatcher, Scott's oriole, and Lucy's warbler. Raptors likely to forage or perch on utility poles in the area include the turkey vulture, prairie falcon, and red-tailed hawk.

Reptiles are relatively rare in the study area due to the relative lack of habitat diversity. Reptiles found throughout the area include the side-blotched lizard and western whiptail. Tree lizards and desert spiny lizards are found in wash habitats. Snakes likely to occur in the area include gopher snake, night snake, long-nosed snake, and common kingsnake.

Special Status Species

Special status species potentially occurring within the area were identified by the U.S. Fish and Wildlife Service (USFWS), in accordance with the Endangered Species Act; the Arizona Game & Fish Department (AGFD), which maintains the Natural Heritage database and the list of Wildlife Species of Concern in Arizona; and the State Department of Agriculture to obtain protected plants and policies established in the Arizona Native Plant Law (ANPL). Special status species that may occur in the study area and their categorical ratings are described below and listed in Table C-1, Appendix C.

Special Status Wildlife Species

Nine special status wildlife species may be present in the study area (AGFD 1996; BLM 1996a; USFWS 1996). These species are described below.

The lesser long-nosed bat and Sonoran pronghorn are federally listed as endangered and are wildlife species of concern in Arizona. Although the lesser long-nosed bats may occur in the vicinity of the project, no roost sites are present and food sources (e.g., agaves and large cactus) are scarce. Habitat for the Sonoran pronghorn is bounded to the north by I-8 and to the east by State Route 85. Habitat consists of broad alluvial valleys separated by block-faulted mountain ranges. Sonoran pronghorn inhabit these valleys which are generally dominated by creosote bush-bursage and often migrate to paloverde-mixed cacti habitats from late winter to early fall (Thompson-Olais 1994). Sonoran pronghorn feed primarily on forbs and shrubs, and cacti and grasses are a smaller component of their diet. The need for open water sources has not been fully documented, although there is no evidence that they travel long distances to obtain water (Thompson-Olais 1994). Although the range of the pronghorn has not been extended east of State Route 85, there have been unconfirmed sightings of pronghorn crossing State Route 85 (BLM 1996a).

Three special status bird species may be present in the study area. There is low potential for peregrine falcon (listed as endangered) to occur as a migrant in the area. Cactus ferruginous pygmy-owl, listed as endangered with critical habitat, is unlikely to be present due to the lack of suitable habitat, and Harris hawks are likely to be present, although potential nest sites are limited.

One reptile and one amphibian special status species are known to inhabit the study area. The Sonoran desert tortoises hibernate during the winter months, emerging from their burrows in the spring to feed and mate. BLM designates management areas for the desert tortoise based on several factors regarding the condition and size of the habitat, as well as manageability of the area (Table C-2, Appendix C). Within the study area, there is Category I habitat where State Route 85 crosses between the Sauceda Mountains and the White Hills, although habitat adjacent to the highway is not considered high value (BLM 1996a). The Crater Range, also traversed by the proposed route, is designated as Category II habitat. The Sonoran green toad inhabits creosote bush throughout the study area.

Special Status Plant Species

Four special status plant species have the potential to occur within the study area, although none of these are federally listed as threatened or endangered. The acuna cactus is a federal candidate species and is categorized as highly safeguarded under ANPL. It grows on open, rocky slopes in creosote bush scrub associations. Habitat ranges from the Crater Range and to the Ajo Mine pit (Benson 1982). Smoketree, categorized as salvage assessed by the ANPL, occurs along larger drainages in the vicinity of Gila Bend and may be present along the Quilatosa Wash (Turner et al. 1995). Salvage assessed native plants include those plants which are not included in either the highly safeguarded or salvage restricted categories but which have sufficient value if salvaged to support the cost of salvage tags and seals (from the Department of Agriculture). Sandpaper bush and copperleaf have low potential for occurrence in the Crater Range (BLM 1996b). Organ pipe cactus has been inventoried south of Ajo and is unlikely to be present within the study area. Additional plant species in the area are under the protection of the ANPL, including mesquite, ironwood, paloverde, and all species of cacti.

SOCIOECONOMICS

Unless otherwise cited, information in this section was obtained from the Arizona Department of Economic Security and U.S. Census Bureau, 1990. The demographic, economic, and fiscal attributes of the area were inventoried to characterize and evaluate potential socioeconomic effects of the proposed study area. Areas of socioeconomic concern for a transmission line project include effects on nearby communities, economic activities, adjacent land uses, and impacts to minority and low income individuals.

Demographics

The study area consists of approximately 194 square miles. Maricopa County has populated areas concentrated around the city of Gila Bend, Gila Bend Air Force Auxiliary Field, and scattered rural residences along State Route 85. Residential areas located in Pima County are concentrated around dispersed rural residences and commercial businesses on the north side of Ajo.

Population data from the U.S. Census Bureau between 1980 and 1990 show an increase in Gila Bend by 10.2 percent (1,585 to 1,747 residents) and a decrease in Ajo by 43.8 percent (5,189 to 2, 916 residents). The significant change in the Ajo population was due to the closing of the PDAI Mine during the 1980s. This change and slowing population growth rate have left a large housing vacancy rate in Ajo (31.8 percent) and Gila Bend (21.3 percent). Houses in Gila Bend and Ajo were primarily built between 1950 and 1970. Primary residents include Phelps Dodge employees, military individuals, and retirees.

Principal Economic Activities

The principal economic activities in Gila Bend are agriculture (e.g., cotton), military activities, and tourism. Ajo is heavily dependent on mining, traveling tourists, and retail services (e.g., food, eating and

drinking establishments, and service stations). Both cities provide public schools, medical facilities, recreation, and air facilities. Primary attractions to the region include the Organ Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, Tohono O'odham Indian Reservation, and travelers to and from Mexico.

Employment and Income

During 1996, the civilian labor force for Gila Bend was 901 persons with an unemployment rate of 6.2 percent. In Ajo, the labor force was 878 persons and an unemployment rate of 5.1 percent. Overall, the unemployment rates went down in both Ajo and Gila Bend from 1995 figures. Average per capita income in Gila Bend from the 1990 census was $8,565 and $8,742 in Ajo. For a family of three this income would be below the poverty level. The principal employers in the study area include Gila Bend Auxiliary Field, BMGR, Phelps Dodge, and educational facilities in Gila Bend and Ajo.

Minority and Low Income Communities

The population and distribution of ethnic people in the Gila Bend and Ajo areas are diverse. According to the 1990 Census Bureau, the ethnic diversity in Gila Bend was 47.4 percent White, 42.5 percent Hispanic origin, 6.4 percent American Indian, 2.3 percent Black, 1.3 percent Asian/Pacific Islander, and 0.1 percent other. In Ajo, the ethnic diversity is 48.1 percent White, 43.0 percent Hispanic origin, 8.2 percent American Indian, 0.6 percent Asian/Pacific Islander, and 0.1 percent Black. The primary language in the area is English; however, a large percentage of the local population speaks Spanish. During the 1980 census, 31 percent of the population in Gila Bend was below the poverty rate. In Ajo, 23 percent of the population was below the poverty rate.

EARTH AND WATER RESOURCES

The project area is located in a portion of the desert section of the Basin and Range physiographic province. The Basin and Range generally consists of steep, discontinuous, subparallel mountain ranges separated by broad, alluvial-filled basins or valleys. The thickness of alluvium is often several thousands of feet in the central portion of these basins. The alluvium consists of unconsolidated to moderately consolidated silts, sands, clays, gravels, and cobbles. Many of the mountains in the project vicinity are formed of Tertiary volcanic rocks. There are also some Precambrian granitic, Cretaceous volcanic, and Tertiary sedimentary rocks (Arizona Geological Survey 1988).

Soils

The soils in the project area are quite variable, primarily as a result of the soil-forming factors of parent material, relief, time, and climate. The soils range from sandy to gravelly in major drainages; to sands, silty sands, and loamy soils on the valley floors; to the fine-to-coarse gravels and rock outcrop in the mountains and mountain slopes. Some of these soils have developed a desert pavement at the surface.

Wind erosion is a potential hazard for many of the soils in the area. Water erosion may occur along the normally dry washes when there is flowing water during or following a rainstorm. Since total annual rainfall is less than eight inches, water erosion hazards are fairly minimal. Vegetation cover protects the soil from wind and water erosion.

The soils have been mapped along portions of the study area by the Natural Resources Conservation Service (1997). Most of the soils have slight wind and water erosion hazards. Areas with moderate wind and/or water erosion hazards occur at many of the larger washes. Broad areas with moderate erosion hazards occur along Link 10 (Mileposts 0.0 to 3.0 and 29.0 to 36.0) and Link 60 (Milepost 2.2 to 2.9).

The soils along Link 10 (Milepost 0.8 to 1.0 and 1.2 to 2.8) are delineated as suitable for prime farmland. Prime farmland is land that has the best combination of physical and chemical characteristics for producing sustained high yields of crops with standard farming methods. A dependable water supply, such as irrigation, is also required.

Water

Surface water drainage in the area is northward by numerous washes to the Gila River, which in turn flows southwestward to the Colorado River. These washes are typically dry and flow in response to the brief but intense summer rainstorms or the longer duration winter rains.

Areas that may be subject to notable flood hazards are delineated by the 100-year floodplain. The Federal Emergency Management Agency (1989, 1993) has mapped the 100-year flood hazard boundaries for the project area. Areas subject to the 100-year floodplain included Link 10 (Milepost 0.6 to 0.7) and Link 60 (Milepost 0.01 to 0.39 and 2.05 to 2.3).

Other areas may be subject to minor flooding from overland or sheet flow as well as along the numerous smaller washes. Most of the major washes are prone to at least minor flooding in response to rainfall. There are no perennial streams or springs along the project links.

AIR QUALITY AND NOISE

The existing air quality along the alternative routes is characteristic of rural and remote areas. Air quality is generally very good and any pollution is primarily from long range transport of pollutants from distant areas (i.e., Phoenix). Pima County has specific air quality standards for the Ajo area under Code 17.08.130. These standards were based on the previous smelter operation at the mine, which was closed in 1985 and dismantled in 1995. The standards which encompass the Ajo area include a nonattainment area for sulfur dioxide (SO_2); an area unclassifiable for SO_2 in the Childs Mountains west of Ajo; a nonattainment area for total suspended particulate directly over the Ajo mine; and a Class II classification for carbon monoxide, nitrogen oxide, and tri-oxide. No other air quality standards or large pollutant sources are located in the area. Also, much of the study area is arid with sandy or silty soils and low vegetative cover, windblown dust from natural sources and local farms contributes to local and regional suspended particulate concentrations.

Ambient noise along the alternative corridors is minimal, with intermittent noises from passing vehicles on I-8 and State Route 85. Loud noises from military aircraft practicing on the BMGR and trains using the Southern Pacific Railroad and Tucson, Cornelia, and Gila Bend Railroad are other primary ambient noises present in the study area.

CHAPTER 4 -ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The purpose of this section is to describe potential effects to the environment that could result from constructing, operating, and maintaining the proposed 230kV transmission line. Impacts that would result from the project were determined by comparing the alternative routes to the existing environment (Chapter 3). The impacts are described as either direct, indirect, or cumulative. The direct and indirect impacts are discussed in the individual resource sections, and the cumulative impacts are discussed at the end of the chapter. The impact analysis is based on the inventory results and standard practices combined with professional judgment of the principal investigator for each particular environmental component. Anticipated environmental consequences are described for the proposed route including Subalternatives A and B. Link segments described for Alternatives A and B are shown in Figure 3. Links refer to the individually numbered segments of the alternatives. Common impacts for the majority of the proposed route are described in Alternative A. Any differences in impacts relative to Alternative B are described under Alternative B.

The following resources are considered critical elements of the human environment, but are not present or would not be affected by the proposed action—wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields, and hazardous or solid waste.

Mitigation measures to reduce potential impacts were applied to the project as a whole or on a site specific basis according to the location(s) of the predicted impact. Mitigation measures are briefly discussed within each resource section (if applicable) and can be reviewed in Appendix D.

LAND USE

Land use impacts typically relate to physical restrictions and operational effects of the proposed project to existing and planned land uses. Impacts were identified along the alternative corridors and described by issue area and link (see Figure 6 for inventoried land use data). All alternatives avoid significant direct physical conflicts with residences, town sites, commercial/industrial facilities, mining, and grazing.

Right-of-way permits that would be required include a right-of-way permit application for the BLM, a right-of-way easement for Arizona State lands, and landowner negotiations for private property. Private landowner negotiations are a matter of technical coordination and a realty agreement between the concerned parties, so they are not addressed in the study.

Proposed Action

Alternative A

Existing and Future Land Use—No moderate or high impacts to land uses resulted from physically displacing, altering, or affecting any established site by the proposed transmission line. Impacts that were identified for Alternative A are discussed below.

Approximately 0.6 mile of irrigated farmland near Gila Bend (Link 10) would be crossed by this route. Specific structure placement, as well as matching existing spans and structure locations, would reduce the potential impact on farm operations to low. The presence of an additional line and taller structures could be more hazardous to aerial crop spraying operations.

Impacts to the Ajo Municipal Airport (Link 10) are anticipated to be minimal provided all standards applicable to the Federal Aviation Administration (FAA) and filing of FAA Form 7460-1 are followed. All requests (e.g., shortening structures or special structure placement) would be adhered to in the final design and construction.

No impacts are anticipated for military operations (Link 10) on the BMGR, according to conversations with the U.S. Air Force (AIC 1997), provided the transmission poles remain under 100 feet, which is lower than the threshold of the military operation maneuvers.

There is potential for impacts to future land use (Link 10) at the northern portion of the route, where lands are designated as parks/open space (0.1 mile) and residential low density (0.1 mile). Impacts would be mitigated by paralleling an existing 69kV line and locating within an existing utility right-of-way. The southern part of this alternative (Link 30) avoids dividing up large tracts of land, which could potentially be sold or exchanged by the BLM.

Recreation—There would be minimal impacts to recreation on an ADOT roadside rest area (Link 10) and the crossing of the Crater Range SRMA (Link 10). Impacts to the ADOT roadside rest area would be mitigated through special pole placement and spanning. Impacts to the Crater Range SRMA would be mitigated by using the existing utility right-of-way as specified within the Lower Gila South RMP (Goldwater Amendment). This plan specifically states that new overhead lines when needed may be placed through this corridor. Short-term indirect impacts to BLM lands within and adjacent to the study area may occur from increased dispersed recreational use due to the influx of construction workers for the proposed project.

Alternative B

Existing land use and recreation impacts to common Links 10 and 60 would be the same as Alternative A. No future land use plans would be affected by Alternative B. The Ajo Area Plan, conceptual in nature, does include (Link 20) residential low and high density designations less than 1/8 mile from Alternative B on Link 20. However, this future land use plan would only be realized if lands became

available for development under the jurisdiction of the BLM. Direct and indirect impacts to recreation for Link 20 would be dispersed and minimal.

No Action

No impacts will occur if the no-action alternative is selected. Existing and planned land uses will continue unaffected.

VISUAL RESOURCES

A description of the visual resources impact assessment methods, types, and levels are presented in Appendix H.

Proposed Action

Alternative A

Potential impacts identified to visual resources were based on the following considerations: (1) the proposed transmission line would parallel existing 69kV subtransmission lines (Link 10 and 60); (2) existing access would be used for construction, (3) similar structure types (wooden single pole) would be used, and (4) nonspecular conductors would be used. These considerations would minimize short- and long-term visual impacts where the proposed route parallels the existing 69kV subtransmission lines.

Visual Sensitivity—Several sensitive viewpoints occur throughout the study area. Potential impacts to views from residences, recreation sites, and highways and travel routes could occur.

Moderate impacts to views from residences could result from the combination of high sensitivity viewers and moderate to strong visual contrast levels in the moderate visibility threshold (0.5 -1.0 mile). Residential views with moderate impacts are found west of State Route 85 (Link 10), near Gila Bend and north of Ajo. With the use of nonspecular conductors it is anticipated that initial moderate impacts would be reduced to low. All remaining residences are expected to have low impacts due to limited visibility as well as vegetation and landform screening.

Moderate impacts to views from recreation sites and areas would result from moderate viewer sensitivity, moderate to strong visual contrast levels in a high visibility threshold (0 to 0.5 mile). Moderate impacts would occur to foreground views from the ADOT rest areas and through the Crater Range SMRA. Impacts would be reduced with the use of nonspecular conductors and structure placement. Low impacts to views from dispersed camping/recreational vehicle sites along Sikort Chuapo Wash (Dennison Picnic Area), Ajo Golf Course, and Ajo Equestrian and Rodeo Ground are anticipated due to the location of the proposed project (one mile away). Low impacts also would occur from the Scenic Loop Road south of the PDAI Mine, because the proposed project would not be visible from the road due to topography.

Moderate impacts to viewers along moderate sensitive travel routes and highways could result from the combination of moderate visual contrast levels within high visibility thresholds (0 to 0.5 mile). These areas would include the crossing of I-8 (Link 10, Milepost 0.1), most of State Route 85 (Link 10, Milepost 4.5 to 36.5), and the El Paso Natural Gas pipeline road (Link 60). Moderate impacts on travel route and highway viewers would be reduced through the use of nonspecular conductors and structure spacing and placement (when possible).

Scenic Quality—Moderate impacts to Scenic Quality Class A landscapes occur within the Crater Range SRMA along Link 10 (Milepost 26.1 to 30.1). These impacts are a result of moderate to strong visual contrast between the existing landscape and the proposed project. The Crater Range SRMA, however, does have a designated utility corridor through it which allows for additional above ground utility lines to be placed in the corridor in the future. In addition, nonspecular conductors and pole placement would minimize impacts.

Agency Management Objectives—The proposed project will comply with the VRM classifications within the study area. The proposed project is located primarily in designated utility corridors on BLM lands.

Alternative B

Visual Sensitivity—Moderate impacts to views from residences north of Ajo (Link 20) result from the combination of high viewer sensitivity, as well as moderate to strong visual contrast levels (e.g., no overhead facilities) in the high visibility threshold (0 to 0.5 mile). Nonspecular conductors would reduce visual impacts.

Impacts to viewers from travel routes/highways would be the same as Alternative A.

Scenic Quality—Impacts are the same as Alternative A, with common Links 10 and 60.

Agency Management Objectives—Compliance with VRM classifications are the same as Alternative A.

No Action

No impacts to visual resources would occur if the no-action alternative is selected.

CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Proposed Action

Alternative A

The area of potential effect has been inventoried and is known to contain 11 properties recommended as eligible or potentially eligible for National Register listing (see Table B-1, Appendix B). Because none of these properties are located along alternative corridors, there are no anticipated distinctions among action alternatives from a cultural resources perspective.

In considering the potential for the proposed transmission line to effect historic properties, possible physical disturbance as well as visual, auditory, and atmospheric intrusions were considered. Just two determined or potentially eligible properties (the Tucson, Cornelia & Gila Bend Railroad and the remains of the historic Clarkston/ Rockwood townsite) are valued for characteristics that might be subject to visual, auditory, or atmospheric intrusions. In neither case, however, is the installation of a transmission line regarded as having a significant impact on those attributes.

Surface disturbance from heavy equipment and minor subsurface disturbance from pole installation could occur within site boundaries in cases where sites are too large to be spanned. As shown on Table B-1, Appendix B, it appears that 5 of the 11 eligible properties can be avoided entirely. Avoidance will be ensured by marking site locations in the field and on construction documents. These properties will be spanned and thus will be avoided during construction except for pedestrian traffic. The construction contractor will be instructed to prevent employees from collecting surface artifacts or otherwise disturbing the properties.

There are five cases where it appears that eligible sites are too large to be spanned. All of these sites contain relatively discrete concentrations of surface artifacts or features separated by large areas that lack surface archaeological traces. While not impossible, the likelihood that buried deposits could be encountered in these "blank" areas is low. Therefore, rather than conducting highly disturbing archaeological data recovery excavations at these sites prior to construction, the BLM would prefer that potential limited impacts be mitigated through the following steps: (1) at sites that cannot be completely spanned, poles will be located in "blank" areas within them; (2) construction will be strictly monitored to ensure avoidance of site areas that exhibit surface artifacts and features, as well as to observe any buried materials that may be encountered during pole construction; and (3) should buried materials be found, construction in those areas will be halted temporarily to permit professional recovery of the finds.

In the event of an archaeological discovery situation, the contractor would be required to cease work in the immediate vicinity of the find and take measures to protect the archaeological remains from further intentional or inadvertent disturbance. These measures might include barricading and partial backfilling. The BLM would be notified within 24 hours of a discovery having been made. The BLM archaeologist would then notify the SHPO and Native American groups known to claim affiliation with former inhabitants of aboriginal archaeological sites in the project area. If the discovery pertained strictly to Euroamerican archaeological remains, just the SHPO would be notified. The BLM would consult with the SHPO and tribal representatives regarding appropriate treatment to mitigate the effects of disturbance, with a field visit arranged if necessary.

Thereafter, the agreed upon treatment would be undertaken by a professional archaeologist before construction would be allowed to proceed.

In consideration of the proponent's commitment to fund monitoring (and data recovery in the event of a subsurface discovery), the BLM is expected to determine that installation of the proposed transmission line will have "no adverse effect" on historic properties as defined in regulations for Protection of Historic Properties (36 CFR Part 800). It is expected that the Arizona SHPO will review the documentation and concur with this determination.

No unavoidable adverse impacts to cultural resources are anticipated.

Residual impacts to cultural resources are expected to be negligible.

Alternative B

Same as Alternative A

No Action

No impacts to cultural resources would occur if the no-action alternative is selected.

BIOLOGICAL RESOURCES

Proposed Action

Alternative A

Vegetation and Special Status Plant Species

Impacts to vegetation are anticipated to be minimal along the proposed corridor, where there is already a high level of disturbance to vegetation. In the area of the Crater Range, there may be some loss of grasses and shrubs due to construction. Quilotosa and Tenmile washes could be spanned to avoid the loss of denser vegetation associated with these drainages. There would be some loss of vegetation along the southern portion of the route east of Ajo, but the impacts would be minimal due to the low sensitivity of creosote bush-bursage associations and the low residual loss of plants.

No populations of special status plant species are known to be present along the proposed alignment. Three species with low potential for occurring in the Crater Range are sandpaper plant, copperleaf, and acuna cactus. Numerous other species in the area are protected by ANPL. If located in the area, these plants would be avoided where practicable.

General and Special Status Wildlife Species

Impacts to wildlife would be short term and temporary, lasting only during the construction period. Loss of habitat would be limited to structure sites.

Direct mortality to small mammals and reptiles could occur during construction. Ground clearing for structure placement could result in the removal of habitat for these species including direct removal of nesting or burrowing areas, thermal security or cover, and food source (e.g., seed source, food plant, or prey species). Most small animals are not highly mobile in the sense of being able to temporarily abandon an area, returning when the disturbing activity ceases. There is also potential for direct mortality along travel routes due to vehicle-animal collisions. However, much of the route is adjacent to a highway; therefore, it is likely that such animals already avoid the area to some extent. Structures that offer perch sites for raptors are not likely to result in increased avian predation or collisions since there are existing structures in place.

Mule deer, coyotes, and javelina are mobile and can avoid the area during construction. No important seasonal habitat or birthing areas are present within the study area.

Sonoran pronghorn have been observed within one mile of the study area. A separate biological evaluation has been completed for Sonoran pronghorn. These large mammals are mobile and could avoid the area during construction. Construction would be suspended if Sonoran pronghorn temporarily enter the construction area. Desert tortoise are known to be present at the Crater Range and are active in the spring and summer months. A biological monitor would be present during construction to ensure that no tortoises or Sonoran pronghorn are present in the construction area. Handling protocol provided by AGFD would be followed when moving an individual tortoise from the construction area. No net loss to the quality and quantity of the desert tortoise habitat is anticipated.

Impacts to special status bird species are anticipated to be minimal. There would not be a loss of habitat and the loss of potential prey species would be minimal.

Alternative B

Same as Alternative A.

No Action

No impacts to biological resources would occur if the no-action alternative is selected.

SOCIOECONOMICS

Proposed Action

Alternative A

The primary effects to socioeconomics for the proposed transmission line project include construction period impacts and fiscal impacts to local jurisdictions. It is estimated that 74 workers over a 9- to 12-month period would be utilized to build the proposed transmission line. In general, the communities of Ajo and Gila Bend would experience an increase in employment and income from the project construction. Local hiring would primarily be laborers and depend on skills of the individuals. Other social impacts would include potential short-term impacts from the influx of construction workers, short-term housing or motel use, increased recreation, and other impacts due to construction activities. The effects of the transmission line to the existing social structure and economic activities would be minor. Social impacts would include potential short-term impacts from the influx of construction workers, acquisition of easement, and construction activities. Long-term impacts could include economic effects of operation and maintenance activities and tax revenue from easements through private lands in Maricopa and Pima counties.

Sources of local indirect business taxes from the project would include the sales and use taxes on materials and equipment purchased locally for the project (e.g., fuels, engineering, and other supplies).

Construction and Right-of-way Acquisition Costs

Economic or fiscal impacts were assessed by estimating the potential annual property tax revenues from the project in Gila Bend and Ajo. Project capital costs were estimated by AIC at $200,000 per mile of new 230kV transmission line, plus the right-of-way land purchase and other acquisition costs. Total project costs are estimated at $10 million (AIC 1996).

Calculations for tax revenues that would potentially be generated by the project were performed using information supplied by APS. The 1995 composite tax rate paid by APS ($17.22 per $100 assessed value for Gila Bend and $14.06 per $100 assessed value for Ajo) was used to derive the estimated tax revenue. Based on calculations, the estimated annual projected tax revenue for Maricopa county would be $11,629 and $15,599 for Pima County.

Impacts on Minority and Low Income Communities

Presidential Executive Order 12898 (EO 12898), regarding "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that each federal agency identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. No disproportionately high or adverse environmental impacts on Native Americans (Tohono O'odham Nation) or minority or low income communities in Ajo and Gila Bend are anticipated to occur from the

proposed action because the proposed project is primarily in a designated utility corridor. Appendix F, Public Contact Information, describes the public contact activities that occurred to ensure that appropriate notification of the proposed project was provided and pertinent input was received.

Alternative B

Potential socioeconomic impacts are the same for Alternative A. Calculations for tax revenues associated with private lands are the same since those areas are common to both alternatives.

No Action

Selection of the no-action alternative would result in loss of short-term economic and employment benefits of transmission line construction. The local community would lose income to small businesses, and potential tax revenues of $11,629 for Maricopa County and $15,599 for Pima County would be lost.

EARTH AND WATER RESOURCES

Proposed Action

Alternative A

Earth Resources

Impacts to earth resources for this project are generally related to soils and may include an increase in soil erosion, compaction, and mixing of soil horizons, thereby temporarily reducing soil productivity and reclamation potential. Surface contamination could occur, resulting from accidental spills of petroleum and other potentially hazardous materials. Compaction of soils and mixing of soil horizons is expected to be minimal. Impacts on soils are expected to be minimal provided construction and operation adhere to the project mitigation guidelines. By spanning washes, using existing access roads, limiting surface disturbance, and retaining existing vegetation to the extent practicable, increases in erosion are expected to be minimal and short term. The potential for soil contamination is reduced by requiring prompt removal of petroleum and other hazardous materials. In those areas with desert pavement, minimal surface disturbance would retain the existing desert pavement and reduce the potential for increased surface erosion.

Water Resources

Impacts to water resources could include increased sedimentation or introduction of pollutants that affect water quality. With adherence to mitigation measures, potential impacts on water resources, which are limited to numerous intermittent washes, are expected to be minor. Mitigation includes placement of structures to avoid the 100-year floodplain as well as the washes. Potential impacts to water quality are

also reduced by adherence to mitigation measures to limit surface area disturbance, avoid spillage of petroleum, construction debris, and other hazardous materials on the surface, and promptly clean up any accidental spills. Impacts to water resources are expected to be very minor.

Alternative B

Same as Alternative A.

No Action

No impacts would occur to the earth and water resources if this alternative was chosen.

AIR QUALITY AND NOISE

Proposed Action

Alternative A

The construction phase of the transmission line would include overland access, structure site clearing and installation, conductor pulling, material hauling, and cleanup. Temporary air pollutant emissions to air quality (9 to 12 months) would include fugitive dust from construction activities and nitrogen oxides, carbon monoxide, hydrocarbons, and sulfur oxides from construction equipment exhaust emissions. The proposed transmission line and associated facilities would not generate measurable amounts of regulated air pollutants after completion of construction. Dust control could be accomplished by limiting the amount of traffic, monitoring vehicle speeds on dirt roads during construction, and watering (where necessary). All air pollutant emissions are temporary and would disperse quickly.

Impacts to ambient noise would be similar, increasing primarily during the construction phase. Noise impacts would be limited to working hours. After completion of construction, noise impacts would be limited to vehicles used for periodic maintenance activities.

Alternative B

Same as Alternative A.

No Action

No impacts to air quality or noise would result from this alternative.

CUMULATIVE EFFECTS

The anticipated cumulative impacts associated with the Gila Bend to Ajo 230kV Transmission Line Project are those that would result from the incremental impact of the proposed action when added to the past, present, and reasonably foreseeable future projects within the study area. The study area is predominantly undeveloped, consisting of open range and low mountainous terrain. Urban areas include the incorporated city of Gila Bend and the unincorporated city of Ajo. Prominent cultural modifications located in the study area are military facilities associated with the BMGR and PDAI Mine. Several other less distinct cultural modifications identified include subtransmission lines, pipelines, highways, and railroads, as well as communication and industrial facilities.

Construction of the proposed transmission line along State Route 85 would introduce another structure to the landscape. However, the proposed transmission line would be located in an existing BLM utility corridor, which is designated for such activities. A description of the past, present, and reasonably foreseeable future projects is provided in Table 1.

The following sections describe the anticipated cumulative effects associated with the Gila Bend to Ajo 230kV Transmission Line Project for each resource. Because an analysis of cumulative impacts depends largely on examining other non-related projects, each section includes a discussion of the anticipated indirect impacts from reasonably foreseeable future projects as well.

Land Use Resources

Cumulative impacts to land use resources from this project along with other projects are expected to be minimal. Impacts generally would be associated with the permanent allocation of public and private lands to utility right-of-way easements. These impacts are considered direct and long term and could affect current and future uses of lands crossed by the proposed action. Small areas of rangeland used for grazing and forage could be damaged from overland access, structure installation, and tension pulling activities. Though these impacts would accumulate with each successive project, the total area lost from production is very small in the context of the region.

There are numerous existing transmission lines, distribution lines, and other linear facilities throughout the study area. Increased access due to construction and the presence of the transmission line right-of-way could cause indirect impacts to wildlife habitat, existing vegetation, and cultural resource sites located near the route selected.

The reopening of the PDAI Mine and the opening of the Hickiwan Casino/convenience store would increase recreational use in the study area based on the labor force required to operate the mine and additional tourists that will visit the casino. However, the cumulative impact on recreation areas in the vicinity of the study area is anticipated to be low due to the vast availability of other BLM lands nearby for recreational purposes.

TABLE 1
CUMULATIVE PROJECTS IN THE GILA BEND TO AJO 230kV TRANSMISSION LINE PROJECT STUDY AREA

Project Type	Location	Description	Area/Length (approximate)
Past Projects			
El Paso Natural Gas Pipeline	Ajo to Casa Grande	8-inch natural gas buried pipeline	82 miles
Gila Bend to Ajo 69kV subtransmission line	Gila Bend to north of Ajo	69kV single wooden pole subtransmission line	41 miles
Ajo to Why 69kV subtransmission line	North Ajo to Why	69kV single wooden pole subtransmission line	16 miles
Gila Bend to Liberty 230kV transmission line	Gila Bend to Liberty	230kV transmission line	44 miles
30-inch water main	Ajo to Childs	supplies water for Ajo from drilled wells	6 miles
Present Projects			
Hickiwan Casino/ convenience store	Sells, Arizona on the Tohono O'odham Indian Reservation	development and operation of a casino/convenience store facility	220 acres
BMGR withdrawal	BMGR	Luke Air Force Base's current 20-year withdrawal terminates in the year 2001; new lease is being actively pursued	4,163 square miles
Future Projects			
PDAI Mine reopening	Ajo	Phelps Dodge plans to reopen the PDAI Mine; the reopening will require the construction of new crusher and concentrator facilities to produce concentrate to be smelted in New Mexico	within existing mine area boundaries
Santa Rosa to Gila Bend 230kV Transmission Line	Gila Bend to Santa Rosa follows Maricopa Road majority of route	The Certificate of Environmental Compatibility has been issued and right-of-way acquired; per the 10-year plan, the anticipated construction date is 2005	80 miles
State Route 85 improvements	from junction of Gila Bend to Ajo	widen and upgrade SR 85 from two lanes to four lanes	uncertain

Visual Resources

Implementation of the proposed project could have direct and long-term impacts to visual resources. Impacts are likely to occur in locations where construction of the proposed project would affect undisturbed landscapes, in close proximity to sensitive viewers (e.g., residences), and along areas where additional development is proposed. Cumulative impacts also could result from additional cultural features added to the viewing environment (i.e., the future Santa Rosa to Gila Bend 230kV Transmission Line). Other projects will likely impact visual resources as well. In Ajo, the reopening of the PDAI Mine will create additional visual impacts on the landscape. It is anticipated that the proposed mining activities will increase the height and mass of the existing developmental rock piles resulting in more visible landforms. Also, lighting from night mining operations potentially could impact adjacent residences. It is not known at this time what location or level of lighting is required.

Cultural Resources

The proposed line will cross the BMGR which has an estimated 13,500 archaeological sites. Therefore, minor cumulative impacts to cultural resources are anticipated in the sense that data from a few sites could be recovered, thus slightly negatively affecting their overall integrity.

As for other foreseeable future projects, installation of new concentrator facilities at the PDAI Mine to replace the old facilities, which have been removed, probably will not significantly affect historic aspects of the mining complex because there has been incremental developmental modification throughout its 100+ year existence. The historic Tucson, Cornelia, and Gila Bend Railroad will be used during construction and thereafter to haul concentrate when the concentrator is in operation. This railroad has been in continuous use since its construction, and thus is periodically maintained. The maintenance, which can affect crossings, rails, ties, and bedding and ballast, is expected to continue, but probably will not be regarded as a significant impact because (1) the workmanship and material integrity of the property have already been affected; and (2) attributes including location, design, setting, feeling, and association should not be affected.

The proposed project, along with other foreseeable future projects, should not have significant cumulative impacts to cultural resources in the study area.

Biological Resources

The cumulative impacts to biological resources in the study area are expected to be minimal. The use of existing access roads, overland construction, and the location of the proposed project within ADOT right-of-way (previously disturbed) would result in no loss of habitat to the Sonoran pronghorn, desert tortoise, and other special status wildlife species. Future projects also are anticipated to have minimal cumulative impacts on vegetation and wildlife species. The reopening of PDAI Mine and associated facilities (e.g., railroad) are proposed on previously disturbed lands at the mine. The increased use of auto and rail associated with the mine would present minimal risk of direct mortality to the Sonoran pronghorn or desert tortoise based on (1) the location of the highway and railroad (approximate eastern boundary

identified for Sonoran pronghorn habitat), and (2) the historical lack of direct mortality of Sonoran pronghorn and desert tortoise species from auto or rail in the study area. The Hickiwan Casino/convenience store would impact previously undisturbed Sonoran desert scrub habitat, although the impact would be minimal from a cumulative perspective. It is assumed that projects built on federal, state, or private lands will adhere to agency and jurisdictional rules and regulations requiring mitigative measures and construction guidelines protecting the environment from adverse impacts.

Socioeconomic Resources

The proposed project, along with other foreseeable projects, should improve the economy of the towns within the study area (primarily Ajo). The proposed project would have positive short-term economic impacts to the communities of Gila Bend and Ajo through the sale of local goods and services. Specifically, it is anticipated that the construction work force will require lodging and services that can be provided by the local communities. The reopening of the PDAI Mine and the opening of the Hickiwan Casino/convenience store would have positive long-term impacts to the communities of Gila Bend, Ajo, Why, and Sells. These projects will provide jobs for the local population, as well as create an increased tax base and subsequent improved services for the communities. The housing markets in Gila Bend and Ajo are also anticipated to increase in rentals and new units due to the projected labor force required for the mine reopening.

Potential negative effects may include those associated with infrastructure demands on law enforcement, medical services, and water and wastewater facilities. In addition, an increase in traffic and light pollution are anticipated as well as change of the non-mining economy.

Earth Resources

The cumulative impacts to earth resources are expected to be minimal. It is assumed that projects built on federal, state, or private lands will adhere to agency and jurisdictional rules and regulations requiring mitigative measures and construction guidelines protecting the environment from adverse impacts. The construction of the proposed project would result in only minor incremental increases in soil erosion. These increases would typically be short term in nature, primarily limited to the construction period and a short period (up to several years) as vegetation is reestablished. The cumulative impacts from the mine reopening project are anticipated to be minimal. The surfaces that would be mined are located on previously disturbed sites, as are the locations for the development rock stockpiles. The proposed project combined with other future projects foreseeable at this time should result in negligible cumulative effects on earth resources.

Water Resources

The cumulative impacts to water resources in the study area are expected to be minimal. Projects requiring construction in or near floodplains, springs, and surface water conveyances would adhere to agency and jurisdictional rules requiring mitigative measures and construction guidelines protecting the

environment from adverse impacts. Increases in sedimentation during or immediately following construction are likely to be minor and only occur until vegetation is reestablished. With the reopening of the PDAI Mine and the opening of the Hickiwan Casino/convenience store, there would be potential for an increase in water pollution and a greater demand for water resources. Future projects would adhere to water quality permits administered by the state including the Aquifer Protection Permit, CWA Section 402 National Pollutant Discharge Elimination System Stormwater Permit (Construction and Operation), Well Construction Permit, Wastewater Reuse Permit, and Approval to Construct and Operate Water and Wastewater Facilities.

Air Quality

Air quality impacts could occur within the study area as a result of future development. However, the incremental effects that result from the proposed project would have no significant level of cumulative impact. Impacts would be difficult to evaluate because the variables of other future projects are undetermined at this time. It is anticipated that there would be increased air emissions from the mine reopening and associated facilities (e.g., the railroad). An existing smelting facility (with available capacity) in New Mexico will be used for the mine operation, diminishing impacts to air quality in the study area. Additional emissions would be attributed to autos from mine workers and individuals going to the casino. Future projects would have to adhere to air quality permits administered by the state (e.g., Class II Air Quality Control Permit). This proposed project would add minimal impacts to overall air quality in the area.

Noise

The proposed project would have negligible cumulative impacts to existing noise conditions. The reopening of the PDAI Mine and associated facilities (e.g. railroad and truck hauling on site) would mean increased noise impacts to the local community, but the proposed noise levels are not anticipated to exceed levels from previous mining operations. The proposed project would not contribute to any overall increase in noise impacts.

CHAPTER 5 - CONSULTATION AND COORDINATION

AGENCIES, TRIBES, AND ORGANIZATIONS CONSULTED

Federal

U.S. Air Force Luke Force Base
Luke Air Force Base, Arizona

U.S. Department of Agriculture
Natural Resources Conservation Service
Arizona State Office, Phoenix, Arizona
Buckeye Field Office, Buckeye, Arizona

U.S. Border Patrol
Phoenix, Arizona

U.S. Department of Interior
Bureau of Land Management
Arizona State Office, Phoenix, Arizona
Phoenix Field Office, Phoenix, Arizona
Yuma Field Office, Yuma, Arizona
Fish and Wildlife Service
Phoenix, Arizona Office
Cabeza Prieta National Wildlife Refuge
Ajo, Arizona
National Park Service
Organ Pipe National Monument,
Ajo, Arizona

U.S. Marine Corps
Marine Corps Air Station Yuma
Yuma, Arizona

Federal Aviation Administration
Los Angeles, California

Native Americans

Ak-Chin Indian Community
Maricopa, Arizona

Gila River Indian Community
Sacaton, Arizona

Hia Ced O'odham Alliance
Glendale, Arizona

Hopi Tribe
Kykotsmovi, Arizona

Salt River Pima Indian Community
Scottsdale, Arizona

Tohono O'odham Nation
Sells, Arizona

State

Arizona Department of Commerce
Population Statistics Unit, Phoenix, Arizona

Arizona Department of Economic Security
Phoenix, Arizona

Arizona Department of Transportation
Roadside Development, Phoenix, Arizona
Highways Division, Phoenix, Arizona

Arizona Game & Fish Department
Phoenix, Arizona
Yuma, Arizona

Arizona State Historic Preservation Office
Phoenix, Arizona

Arizona State Museum
University of Arizona, Tucson, Arizona

Arizona State University
Department of Anthropology, Tempe, Arizona

City and County

Ajo Municipal Airport
Pima County
Ajo, Arizona

Maricopa County
Planning and Development Department
Phoenix, Arizona

Pima County
Development Services Department
Tucson, Arizona

Pima County
Assessors Office
Tucson, Arizona

Town of Gila Bend
Gila Bend Planning Commission
Gila Bend, Arizona

Other

Arizona Public Service
Phoenix, Arizona

El Paso Natural Gas
Casa Grande, Arizona

Friends of the Cabeza Prieta
Tucson, Arizona

Land and Water Fund
Boulder, Colorado

Others (continued)

Sierra Club
Rincon Group
Tucson, Arizona

Southwest Gas Company
Casa Grande, Arizona

June D. Marcus
Ajo, Arizona

Eric B. Marcus
Ajo, Arizona

Kord M. Klinefelter
Ajo, Arizona

Carol M. Klinefelter
Ajo, Arizona

Henrietta Daniels
Ajo, Arizona

Richard E. Daniels
Ajo, Arizona

Barbara and Marvin Silva
Ajo, Arizona

Bill Broyles
Tucson, Arizona

APPENDICES

APPENDIX A
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APPENDIX A - REFERENCES

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APPENDIX B
CULTURAL RESOURCES

Table B-1
Cultural Resources within the Area of Potential Effect
of the Proposed Gila Bend-Ajo 230kVTransmission Line
(North to South)

	Designation	Description	Date	Eligibility Recommendation*	Required Mitigation	Anticipated Effect**
1	AZ Z:1:37	railroad construction camp	historic	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
2	AZ Z:1:38	artifact scatter	prehistoric / historic	potentially eligible (D)	avoid entirely (span)	no effect
3	AZ Z:1:34	old SR 85	historic	not eligible	none	not applicable
4	AZ Z:1:36	old telephone line	historic	not eligible	none	not applicable
5	AZ Z:5:58	fire-cracked-rock scatter	prehistoric	not eligible	none	not applicable
6	AZ Z:5:59	lithic scatter	prehistoric	not eligible	none	not applicable
7	AZ Z:5:55	airfield / basecamp	WWII / prehistoric	determined eligible (A and D)***	avoid surface manifestations and monitor construction	not adverse
8	AZ Z:5:60	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid entirely (span)	no effect
9	AZ Z:5:62	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid entirely (span)	no effect
10	AZ Z:5:63	artifact scatter	historic	not eligible	none	not applicable
11	AZ Z:5:64	road construction camp	historic	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
12	AZ Z:5:70	artifact scatter	prehistoric	not eligible	none	not applicable
13	AZ Z:9:16	artifact scatter	prehistoric	potentially eligible (D)	avoid entirely (span)	no effect
14	AZ Z:9:17	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
15	AZ Z:9:18	artifact and fire-cracked-rock scatter	prehistoric	potentially eligible (D)	avoid surface manifestations and monitor construction	not adverse
16	AZ Z:52 (BLM) AZ Z:1:35 (ASM)	Tucson, Cornelia & Gila Bend Railroad	historic	determined eligible (A and D)	span railroad grade	no effect
17	AZ Z:9:33	lithic scatter w/ fire-cracked rock	prehistoric	not eligible	none	not applicable
18	AZ Z:9:34	lithic scatter w/ rock pile	prehistoric	not eligible	none	not applicable
19	AZ Z:9:2	Clarkston / Rowood	historic	potentially eligible (A and D)	none	no effect

* These recommendations will be modified to reflect the ultimate mitigation determinations made in consultation between the BLM and SHPO in accordance with the National Historic Preservation Act

** These effects will be modified as necessary to reflect the formal determination of effect reached in consultation between the BLM and SHPO in accordance with the National Historic Preservation Act

*** The historic airfield, which will not be affected by the proposed transmission line, was determined eligible under A in consultation among the Air Force, BLM and SHPO; the prehistoric basecamp has been determined eligible under D

APPENDIX C
BIOLOGICAL RESOURCES

TABLE C-1
SPECIAL STATUS WILDLIFE SPECIES
Special Status Wildlife Species Which May Occur Along the Proposed Gila Bend to Ajo 230kV Transmission Line

KEY: FED = Federal Protective Status
- E = Endangered
- PE = Proposed Endangered
- T = Threatened
- C = Candidate for Listing
- BLM = Bureau of Land Management

AZ = Protective Status in Arizona
- X = Wildlife Species of Concern in Arizona
- M = Monitored by the Arizona Game & Fish Department Database
- NPL = Arizona Native Plant Law
- sa = salvage assessed
- hs = highly safeguarded
- sr = salvage restricted

Species		Habitat Type and Species Range in Project Area	Status	
Common Name	Scientific Name		Fed	AZ
MAMMALS				
Lesser Long-nosed Bat	*Leptonycteris curasoae yerbabuena*	mines, caves, and tunnels, desertscrub with century plants (agave) and large cactus; Pima, Maricopa, and Pinal counties	E	X
California Leaf-nosed Bat	*Macrotis californicus*	caves, mine tunnels of desertscrub habitats; western and southern Arizona		X
Sonoran Pronghorn	*Antilocapra americana sonoriensis*	Sonoran desert flatlands; southwestern Arizona	E	X
BIRDS				
American Peregrine Falcon	*Falco peregrinus anatum*	cliffs and steep terrain, near water or woodlands with an abundant prey base; may occur as a migrant	E	X
Bald Eagle	*Haliaeetus leucocephalus*	deciduous riparian woodlands; winter along rivers and reservoirs in Arizona; may occur as a migrant	T	X
Harris' Hawk	*Parabuteo unicinctus*	Sonoran Desert flatlands of paloverde, mesquite, ironwood, and saguaro; Pima and Maricopa counties.		M

Species		Habitat Type and Species Range in Project Area	Status	
Common Name	Scientific Name		Fed	AZ
Cactus Ferruginous Pygmy-owl	*Glaucidium brasilianum cactorum*	saguaro forests, forested riparian areas, desert washes; central and south-central Arizona	E	X
REPTILES AND AMPHIBIANS				
Desert Tortoise - Sonoran population	*Gopherus agassizii*	Sonoran desertscrub, primarily mixed paloverde-cactus scrub; eastern and southern Arizona		X
Sonoran Green Toad	*Bufo retiformis*	mesquite grassland and creosote bush desertscrub		M
PLANTS				
Smoketree	*Psorothamnus (=Dalea) spinosa*	locally dominant along large washes; known near Gila Bend		NPL sa
Sandpaper Bush	*Petalonyx linearis*	sandy soils; Crater Range	BLM	
Copperleaf	*Acalypha californica*	locally abundant on rocky slopes; Quiotoa and Ajo mountains, Organ Pipe Cactus New Mexico	BLM	
Acuna Cactus	*Echinomastus erectocentrus var. acunensis*	open slope, rocky hills, in creosote bush scrub habitats; Crater Range and vicinity of Ajo mine pit	C	NPL hs
Organ Pipe Cactus	*Stenocereus thurberi*	slopes and plains; southwestern Arizona, Baja, and Mexico		NPL sr
Source: AGFD 1996a,b; Benson 1982; BLM 1996b; Hoffmeister 1986; Turner et al. 1995; USFWS 1996				

TABLE C-2
SONORAN DESERT TORTOISE HABITAT GOALS AND CRITERIA

The criteria are ranked by importance to the categorization process, with Criterion 1 being the most important.

Criteria and Goals	Habitat Areas		
	Category I	Category II	Category III
Category Goals	Maintain stable, viable populations and protect existing tortoise habitat values; increase populations, where possible.	Maintain stable, viable populations and halt further declines in tortoise habitat values.	Limit tortoise habitat and population declines to the extent possible by mitigating impacts.
Criterion 1	Habitat area essential to maintenance of large, viable populations.	Habitat area may be essential to maintenance of viable populations.	Habitat area not essential to maintenance of viable populations.
Criterion 2	Conflicts resolvable.	Most conflicts resolvable.	Most conflicts not resolvable.
Criterion 3	Medium to high density or low density contiguous with medium or high density.	Medium to high density or low density contiguous with medium or high density.	Low to medium density not contiguous with medium or high density.
Criterion 4	Increasing, stable, or decreasing population.	Stable or decreasing population.	Stable or decreasing population.

Source:USDI, BLM 1988

APPENDIX D
MITIGATION MEASURES

APPENDIX D - MITIGATION MEASURES

MITIGATION MEASURES

Mitigation for the proposed project includes measures that can be applied to the project as a whole or may be used at site specific locations where resource sensitivity is high. The mitigation measures in Table D-1 are applied to the entire project. The measures in Table D-2 are primarily applied at site specific locations where initial impacts are anticipated to be moderate or high. The mitigation measures described in this section provide general guidelines and types of mitigative measures that may be used to decrease impacts to resources as a result of the proposed action. If the proposed action is approved, the BLM and AIC representatives will prepare a detailed mitigation plan which will act as a stipulation (Appendix E) to the special use permit issued for the construction and operation of the proposed action. Examples of specific mitigation measures include the size and color of ground covering at the exact locations of access roads and improvements to these roads. Implementation of mitigation measures specified will be supervised by appropriate BLM representatives.

The following list contains mitigation measures considered in the analysis of potential impacts associated with the project.

TABLE D-1
STANDARD MITIGATION MEASURES

1.	All construction vehicle movement outside of the right-of-way will be restricted to predesignated access, contractor acquired access, or public roads.
2.	The limits of construction activities will typically be predetermined, with activity restricted to and confined within those limits. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate survey or construction activity limits. The right-of-way boundary will be flagged in environmentally sensitive areas described in the specific plan of development to alert construction personnel that those areas should be avoided.
3.	In construction areas where recontouring is not required, vegetation will be left in place wherever possible to avoid excessive root damage and allow for resprouting.
4.	In construction areas (e.g., marshaling yards, structure sites, spur roads from existing access roads) where ground disturbance is significant or where recontouring is required, surface restoration will occur as required by the landowner or land-management agency. The method of restoration will typically consist of returning disturbed areas to their natural contour (to the extent practical), reseeding or revegetating with native plants (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches. Seed must be tested and certified to contain no noxious weeds in the mix by the State of Arizona Agricultural Department. Seed viability must also be tested at a certified laboratory approved by the authorized officer.
5.	Watering facilities (e.g., tanks, developed springs, water lines, wells, etc.) will be repaired or replaced to their predisturbed conditions as required by the landowner or land-management agency if they are damaged or destroyed by construction activities.
6.	Prior to construction, all construction personnel will be instructed on the protection of cultural, paleontological, and ecological resources. To assist in this effort, the construction contract will address (a) federal and state laws regarding antiquities, fossils, and plants and wildlife, including collection and removal; and (b) the importance of these resources and the purpose and necessity of protecting them.
7.	An initial intensive cultural resource inventory survey is to be conducted in conjunction with preparation of the environmental assessment (EA). Impact avoidance and mitigation measures developed in consultation with appropriate land-managing and regulatory agencies and other interested parties will be implemented during post-EA phases of project implementation.
8.	The project sponsors will respond to complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures. The transmission line will be patrolled on a regular basis so that damaged insulators or other line materials that could cause interference are repaired or replaced.
9.	The project sponsors will apply necessary mitigation to minimize problems of induced currents and voltages onto conductive objects sharing a right-of-way, to the mutual satisfaction of the parties involved.
10.	All construction and maintenance activities shall be conducted in a manner that will minimize disturbance to vegetation, drainage channels, and intermittent and perennial streambanks. In addition, all existing roads will be left in a condition equal to or better than their condition prior to the construction of the transmission line.

TABLE D-1
STANDARD MITIGATION MEASURES

11. All requirements of those entities having jurisdiction over air quality matters will be adhered to and any necessary permits for construction activities will be obtained. Open burning of construction debris (cleared trees, etc.) will not be allowed on BLM administered lands.

12. Fences and gates, if damaged or destroyed by construction activities, will be repaired or replaced to their original predisturbed condition as required by the landowner or the land-management agency. Temporary gates will be installed only with the permission of the landowner or the land-management agency, and will be restored to their original predisturbed condition following construction.

13. Corona is not a problem requiring special mitigation at 230kV and below. The proposed hardware and conductor will limit the audible noise, radio interference (RI), and television interference (TVI) due to corona. Tension will be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution will be exercised during construction to avoid scratching or nicking the conductor surface which may provide points for corona to occur.

14. During operation of the transmission line, the right-of-way will be maintained free of construction related non-biodegradable debris.

15. Totally enclosed containment will be provided for all debris. All construction waste including debris, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials will be removed to a disposal facility authorized to accept such materials.

16. Structures will be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc. 1981).

17. Third party environmental compliance will be required throughout the life of the construction effort, from clearing through rehabilitation.

18. Species protected by the Arizona Native Plant Law will be salvaged. A salvage plan approved by the BLM will be included in the specific plan of development. Generally, salvage may include:

    - removal and stockpiling for replanting on site
    - removal and transplanting out of surface disturbance area
    - removal and salvage by private individuals
    - removal and salvage by commercial dealers
    - any combination of the above

TABLE D-2
SELECTIVELY RECOMMENDED MITIGATION MEASURES

Note: These selective mitigation measures apply only to specific locations that may be identified in the EA or during field investigations and recorded in the specific plan of development.

1. No widening or upgrading of existing access roads will be undertaken in the area of construction and operation, except for repairs necessary to make roads passable, where soils or vegetation are very sensitive to disturbance.
2. There will be no blading of new access roads in the area of construction and operation without BLM approval. Existing crossings will be utilized at rivers, perennial streams, and irrigation channels. These access routes must be flagged with an easily seen marker and the route must be approved by the authorized officer in advance of use.
3. The alignment of any new overland routes will follow the designated area's landform contours where possible, providing that such alignment does not additionally impact resource values. This would minimize ground disturbance and reduce scarring (visual contrast).
4. Modified structure design will be utilized to minimize ground disturbance, operational conflicts, visual contrast, or avian conflicts.
5. In designated areas, structures will be placed or rerouted so as to avoid sensitive features such as, but not limited to, riparian areas, water courses, and cultural resource sites, or to allow conductors to clearly span the features, within limits of standard tower design. This would minimize the amount of disturbance to the sensitive feature or reduce visual contrast.
6. Standard structure design will be modified to correspond with spacing of existing transmission line structures where feasible. This would reduce visual contrast or potential operational conflicts.
7. At highway, canyon, and trail crossings, structures are to be placed at the maximum feasible distance from the crossing to reduce visual impacts.
8. Non-specular conductors will be utilized to reduce visual impacts, except if it is determined that specular conductors need to be used along low-flight areas on the Goldwater Range for the safety of low-flying aircraft.
9. With the exception of emergency repair situations, right-of-way construction, restoration, maintenance, and termination, activities in designated areas will be modified or discontinued during sensitive periods (e.g., nesting and breeding periods) for candidate, proposed threatened and endangered, or other sensitive animal species. This list will be approved in advance by the authorized officer of the BLM.
10. Surface disturbing activities will be limited in the areas of critical concern for any special status species.
11. Structures will comply with Federal Aviation Administration Guidelines to minimize aircraft hazards (Federal Aviation 77).
12. Develop desert tortoise mitigation plan.

APPENDIX E
STANDARD OPERATING PROCEDURES

APPENDIX E - STANDARD OPERATING PROCEDURES

Standard Stipulations for Right-of-Way Grant

1. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan(s) of development which was (were) approved and made part of the grant. Any relocation, additional construction, or use that is not in accord with the approved plan(s) of development, shall not be initiated without the prior written approval of the authorized BLM officer. A copy of the complete right-of-way grant, including all stipulations and approved plan(s) of development, shall be made available on the right-of-way area during construction, operation, and termination to the authorized BLM officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

2. The holder shall submit a plan or plans of development that describe in detail the construction, operation, maintenance, and termination of the right-of-way and its associated improvements and/or facilities. The degree and scope of these plans will vary depending upon (1) the complexity of the right-of-way or its associated improvements and/or facilities, (2) the anticipated conflicts that require mitigation, and (3) additional technical information required by the authorized BLM officer. The plans will be reviewed, and if appropriate, modified and approved by the authorized BLM officer. An approved plan of development shall be made a part of the right-of-way grant.

3. The holder shall contact the authorized BLM officer prior to the anticipated start of construction and/or any surface disturbing activities. The authorized BLM officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plans(s) of development.

4. The holder shall designate a representative(s) who shall have the authority to act upon and to implement instructions from the authorized BLM officer. The holder's representative shall be available for communication with the authorized BLM officer within a reasonable time when construction or other surface disturbing activities are underway.

5. The authorized BLM officer may suspend or terminate in whole, or in part, any notice to proceed which has been issued when, in his judgement, unforeseen conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.

6. Where slope stabilization requires significant terrace or bench construction, the holder shall include engineering drawings for this work to be reviewed, and where appropriate, modified and approved by the authorizing BLM officer.

7. The design and location of all facilities shall be approved by the authorized BLM officer prior to construction.

8. The structure design submitted with the original proposal shall be made a part of this right-of-way grant. All construction must conform to these drawings.

9. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or federal land shall be immediately reported to the authorized BLM officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized BLM officer. An evaluation of the discovery will be made by the authorized BLM officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized BLM officer after consulting with the holder.

10. Use of pesticides shall comply with the applicable federal and state laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the holder shall obtain from the authorized BLM officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized BLM officer. Emergency use of pesticides shall be approved in writing by the authorized BLM officer prior to such use.

11. The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized BLM officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the *Manual of Surveying Instructions for the Survey of the Public Lands in the United States*, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized BLM officer. If the Bureau cadastral surveyors or other federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

12. The holder of this right-of-way grant or the holder's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of Interior issued pursuant thereto.

13. The holder shall place slope stakes, culvert location and grade stakes, and other construction control stakes as deemed necessary by the authorized BLM officer to ensure construction in accordance with the plan of development. If stakes are disturbed, they shall be replaced before proceeding with construction.

14. The holder shall mark the exterior boundaries of the right-of-way with a stake and/or lath. The intervals may be varied at the time of staking at the discretion of the authorized BLM officer. The tops of the stakes and/or laths will be painted and the laths flagged in a distinctive color as determined by the holder. The survey station numbers will be marked on the boundary stakes and/or laths at the entrance to and the exit from public land. Holder shall maintain all boundary stakes and/or laths in place until final cleanup and restoration are completed and approved by the authorized BLM officer. The stakes and/or laths will then be removed at the direction of the authorized BLM officer.

15. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

16. The holder shall survey and clearly mark the centerline and/or exterior limits of the right-of-way, as determined by the authorized BLM officer.

17. No surface disturbance or construction activity will be allowed, which shall be clearly marked as specified by the authorized BLM officer. Any deviation from this requirement shall have the prior written approval of the authorized BLM officer.

18. The holder shall remove only the minimum amount of vegetation necessary for the construction of structures and facilities. Topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation.

19. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 6 inches deep, the soil shall be deemed too wet to adequately support construction equipment.

20. Construction holes left open over night shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.

21. All design; material; and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

22. The holder shall limit excavation to the areas of construction. No borrow areas for fill material will be permitted on the site. All off-site borrow areas must be approved in writing by the authorized BLM officer in advance of excavation. All waste material resulting from construction or use of the site by holder shall be removed from the site. All waste disposal sites on public land must be approved in writing by the authorized BLM officer in advance of use.

23. When construction activity in connection with the right-of-way breaks or destroys a natural barrier used for livestock control, the gap, thus opened, shall be fenced to prevent the drift of livestock. The subject natural barrier shall be identified by the authorized BLM officer and fenced by the holder as per instruction of the authorized BLM officer.

24. Specific sites as identified by the authorized BLM officer (e.g., archaeological sites, areas with threatened and endangered species, or fragile watersheds) where construction equipment and vehicles shall not be allowed, shall be clearly marked onsite by the holder before any construction or surface disturbing activities begin. The holder shall be responsible for assuring that construction personnel are well trained to recognize these markers and understand the equipment movement restrictions involved.

25. Where necessary a biological or cultural resources monitor would be present during construction to ensure resources were protected in the construction area or in an area where resources could not be spanned.

26. The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized BLM officer to protect the public, wildlife, livestock, or facilities constructed within the right-of-way.

27. Construction-related traffic shall be restricted to routes approved by the authorized BLM officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized BLM officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized BLM officer.

28. The holder shall inform the authorized BLM officer within 48 hours of any accidents on federal lands that require reporting to the Department of Transportation as required by 49 CFR Part 195.

29. Unless otherwise agreed to by the authorized BLM officer in writing, power lines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines," Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by a raptor expert approved by the authorized BLM officer.

30. The BLM reserves the right to require modifications or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds.

Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

31. The holder shall coordinate with the authorized BLM officer on the design and color of the poles and transmission lines to achieve the minimum practicable visual impacts.

32. The holder shall use nonreflecting lines and conductors at the following location(s): entire project.

33. The holder shall recontour disturbed areas, or designated sections of the right-of-way, by grading to restore the site to approximately the original contour of the ground as determined by the authorized BLM officer.

34. The holder shall recontour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate original contours of the land in the right-of-way.

35. The holder shall evenly spread the excess soil excavated from pole holes within the right-of-way and in the immediate vicinity of the pole structure.

36. The holder shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient. Loose soil, fill, and culverts shall be removed from drainage channels as directed by the authorized BLM officer.

37. The holder shall prepare a fire prevention and suppression plan, that shall be reviewed, modified and approved, as appropriate, by the authorized BLM officer. The holder shall take into account such measures for prevention and suppression of fire on the right-of-way and other public land used or traversed by the holder in connection with operations of the right-of-way. Project personnel shall be instructed as to individual responsibility in implementation of the plan.

38. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2803.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from fire or soil movement (including landslides and slumps as well as wind and water-caused movement of particles) caused or substantially aggravated by any of the following within the right-of-way or permit area:

    (1) Activities of the holder, including but not limited to, construction, operation, maintenance, and termination of the facility.

    (2) Activities of other parties including but not limited to:

        (a) land clearing
        (b) earth-disturbing and earth-moving work

(c) blasting
(d) vandalism and sabotage

39. The maximum limitation for such strict liability damages shall not exceed $ __ for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

40. This section shall not impose strict liability for damage or injury resulting primarily from the negligent acts or omissions of the United States.

41. A litter policing program shall be implemented by the holder, and approved of in writing by the authorized BLM officer, which covers all roads and sites associated with the right-of-way.

42. The holder(s) shall comply with all applicable federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any federal agency or state government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized BLM officer concurrent with the filing of the reports to the involved federal agency or state government.

43. The holder of Right-of-Way No. AZA-29804 agrees to indemnify the United States against any liability arising from the release of any hazardous substance of hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third party.

44. Prior to termination of the right-of-way, the holder shall contact the authorized BLM officer to arrange a pretermination conference. This conference will be held to review the termination provisions of the grant

45. Within 30 days of completion, the holder will submit to the authorized BLM officer, as-built drawings and a certification of construction verifying that the facility has been constructed (and tested) in accordance with the design, plans, specifications, and applicable laws and regulations.

46. During conditions of extreme fire danger, operations shall be limited or suspended in specific areas, or additional measures may be required by the authorized BLM officer.

47. If "cross country" access is necessary, clearing vegetation or grading a roadbed will be avoided whenever practicable. All construction and vehicular traffic shall be confined to the right-of-way or designated access routes, roads, or trails unless otherwise authorized in writing by the authorized BLM officer. All temporary roads used for construction shall be rehabilitated after construction is completed. Only one road or access route will be permitted to each site requiring access.

48. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, debris, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

APPENDIX F
PUBLIC CONTACT INFORMATION

APPENDIX F
PUBLIC CONTACT INFORMATION

In preparation of the environmental assessment and as part of the public information program for the Gila Bend to Ajo 230kV Transmission Line Project, an initial mailing list was developed in November 1996 by the BLM Phoenix Field Office. A letter was sent on November 13, 1996 to interested parties on the mailing list to inform individuals of information meetings to be held in Gila Bend and Ajo.

The public information meetings in Gila Bend and Ajo were held to discuss the proposed project and collect public comments. The first meeting was held in Ajo on Wednesday, December 4, 1996 from 4:00 pm to 8:00 pm at the Ajo High School, Dicus Auditorium. Notices of the meeting in Ajo appeared on November 13, 1996 and December 4, 1996 in the *Ajo Copper News*. Sign-in sheets indicated an attendance of 12 persons. The attendees were represented by government agencies, mining agencies, and other groups. The second meeting was held in Gila Bend on Thursday, December 5, 1996 from 4:00 pm to 8:00 pm at the Gila Bend High School Cafeteria. Notice of the meeting in Gila Bend appeared on November 14, 1996 in the *Gila Bend Sun*. Sign-in sheets indicated an attendance of three persons. Materials provided at the open houses consisted of fact sheets, comment forms, project maps, and resource maps (biology, existing land use, and future land use). In addition, PDAI/AIC provided information and displays on the proposed mining activities including a map, a diagram of the mining area and operations, a list of employees and number required, and economic information. Project team members were available throughout the open house to answer questions. One of the team members was available to speak Spanish, if necessary. Comment forms were available for people to either fill out at the open house or return to the BLM at a later date. Copies of the project fact sheet and comment forms available at the meeting are provided at the end of this appendix.

Individuals who attended the two information meetings and other interested parties were added to the mailing list. Agencies contacted included federal, state, and local governments, and Native American or Tribal consultations that are listed in Chapter 5. The comment period began on December 4, 1996 and ended January 3, 1997. A total of 10 comments were received including one received after January 3, 1997. The comment summary is provided in Table F-1.

TABLE F-1
COMMENTS RECEIVED DURING SCOPING FOR THE GILA BEND TO AJO 230kV TRANSMISSION LINE PROJECT

Comment Number	Date Received	Commentor	Address	Comment Summary
1	12/06/96	June D. Marcus	Ajo, Arizona	too much red tape, shorten permit time
2	12/06/96	Eric B. Marcus Owner Ajo Aircenter	Ajo, Arizona	height of poles near Ajo airport
3	12/11/96	Kord M. Klinefelter Business owner	Ajo, Arizona	in favor of transmission line
4	12/11/96	Carol M. Klinefelter	Ajo, Arizona	in favor of transmission line, believes line will help power situation in Ajo
5	12/11/96	Henrietta Daniels	Ajo, Arizona	in favor of transmission line
6	12/11/96	Richard E. Daniels, Retired	Ajo, Arizona	long time resident in favor of transmission line
7	12/13/96	Edward B. Zukoski Staff attorney for The Wilderness Society	Boulder, Colorado	NEPA may require that BLM consider the effects of opening the mine related to the transmission line
8	01/02/97	Barbara and Marvin Silva	Ajo, Arizona	long time resident; in favor of action
9	01/03/97	Bill Broyles	Tucson, Arizona	visual impacts, wildlife concerns, socioeconomics, line location, pollution from mine, water resources, increased people pressures on public lands
10	01/14/97	Edward B. Zukoski Staff attorney on behalf of The Mineral Policy Center, The Defenders of Wildlife and Bill Broyles	Boulder, Colorado	address impacts of reopening mine; impacts to smelter in New Mexico; transportation of concentrate; impacts to water, wildlife, air quality, vegetation, socioeconomics, visual resources, recreation; alternate routes evaluated; BLM should evaluate impacts covered by state permits

FACT SHEET

Gila Bend to Ajo 230kV Transmission Line Project Environmental Assessment

December 1996

Project Description

The Bureau of Land Management (BLM) Phoenix Field Office will be directing the preparation of a third-party environmental assessment (EA) in compliance with the National Environmental Policy Act (NEPA) to analyze the potential impacts related to the construction and operation of the proposed Gila Bend to Ajo 230kV Transmission Line Project. Ajo Improvement Company is proposing to build and operate approximately 47 miles of 230kV transmission line from Gila Bend to Ajo. The proposed route for the transmission line will be from the substation west of Gila Bend following the existing 69kV line along the highway across the Barry M. Goldwater Air Force Range to Ajo. The proposed transmission line structure is a single wooden pole, typically 55 to 100 feet above ground, spaced 250 to 700 feet apart. The transmission line would provide electric service to the Phelps Dodge Ajo, Inc. Mine Reopening Project.

Appropriate federal, state, county, and local agencies and public interest groups will be contacted and consulted throughout the EA process. The objectives of the EA and related activities will be to study and assess the potential impacts of the proposed project on various environmental resources including biological (e.g., threatened or endangered species), cultural, visual, land use, socio-economic, geology, soils, and water.

The accompanying map shows the proposed project study area and the proposed transmission line corridor selected for further evaluation.

Public Participation and Environmental Analysis Process

The process of conducting environmental and engineering studies to identify a suitable location for the project is ongoing. Studies are being conducted in cooperation with the BLM to determine the location of corridors suitable for this type of use. A potential transmission line corridor has been identified. However, the BLM is seeking comment from the public; federal, state, and local agencies; and potentially affected landowners for this project.

The EA will be prepared by Dames & Moore, an environmental consulting firm, under the direction of the BLM. Environmental and engineering studies are currently being conducted to identify and evaluate the proposed action and alternatives for the project, including a "no-action" alternative.

The purpose of this fact sheet is to give you an opportunity early in the project to comment on the proposed project. Comments on this proposed project must be received by January 3, 1997. A self-addressed comment form is available to provide any comments you have on the project.

In addition to this fact sheet, two public open houses are being held to discuss the proposed project and EA. These meetings will be held at the following time and locations:

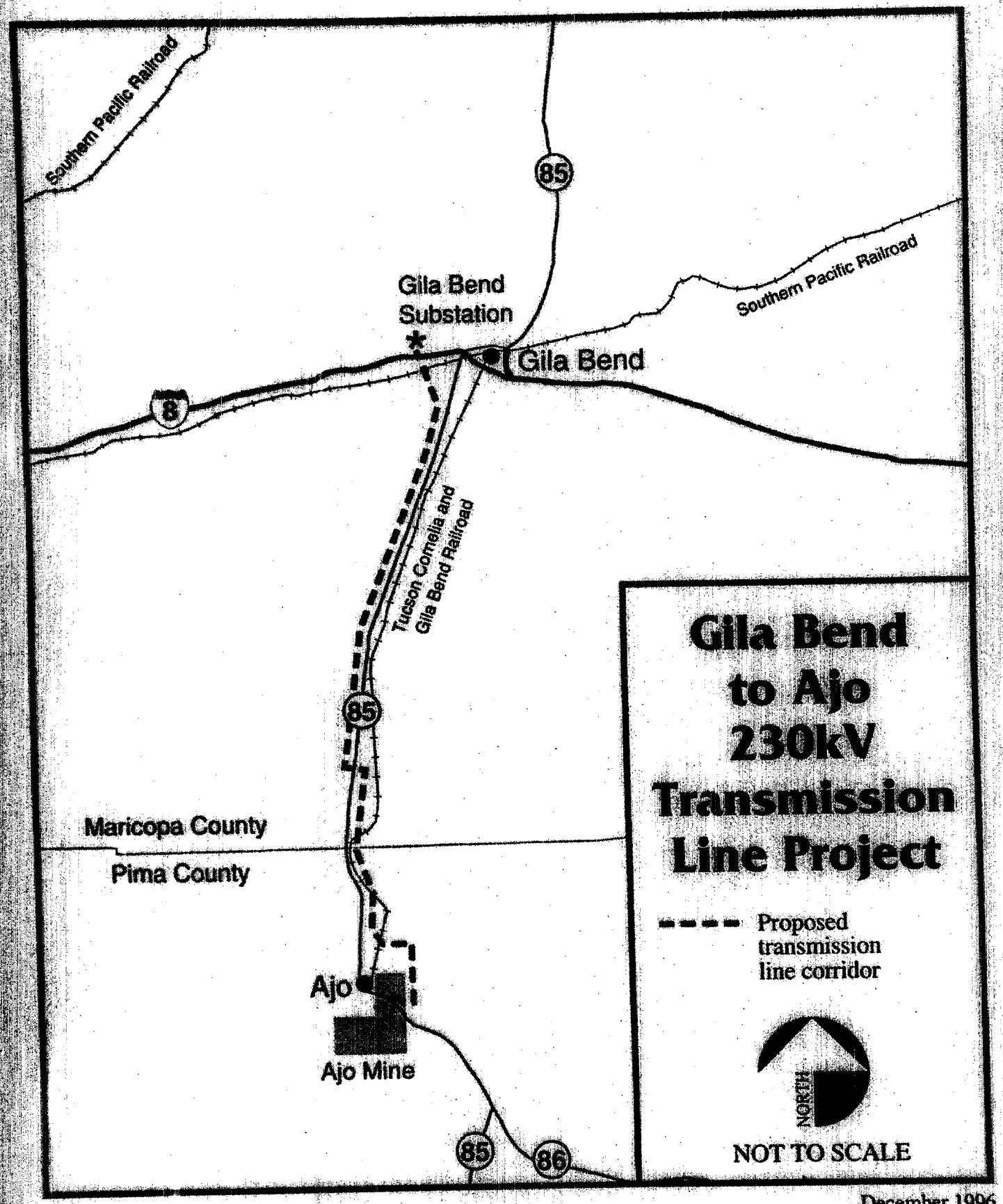
December 4, 1996
4:00 to 8:00 p.m.
Ajo High School
Dicus Auditorium

December 5, 1996
4:00 to 8:00 p.m.
Gila Bend High School
Cafeteria

We look forward to your comments. If you need additional information or if you have questions concerning the project, please contact

Dave Redmond
Bureau of Land Management
Phoenix Field Office
(602) 780-8090

Personas quien hablan español se pondrían en contacto con Hector Abrego a BLM (602) 780-8090.


Southern Pacific Railroad
85
Gila Bend
Substation
Gila Bend
Southern Pacific Railroad
8
Tucson Comelia and
Gila Bend Railroad
85
Maricopa County
Pima County
Ajo
Ajo Mine
85
86
Gila Bend
to Ajo
230kV
Transmission
Line Project
Proposed
transmission
line corridor
NORTH
NOT TO SCALE
December 1996

APPENDIX G
LIST OF PREPARERS AND CONTRIBUTORS

APPENDIX G - LIST OF PREPARERS AND CONTRIBUTORS

BUREAU OF LAND MANAGEMENT
PHOENIX FIELD OFFICE

David Redmond	Project Manager
John Jamrog	NEPA Compliance, Land Use, and Recreation
Dave Scarbrough	Recreation
Steve Markman	Earth and Water Resources
Tim Goodman	Wildlife Resources
John Anderson	Vegetation Resources
Jane Pike Childress	Cultural Resources
Shela McFarlin	NEPA Compliance/Environmental Justice
Hector Abrego	Realty and Minerals
Gina Ramos	Socioeconomics
Jack Spears	Range

DAMES & MOORE

Garlyn Bergdale	Principal
Lauren Weinstein	Project Director
Paul Trenter	Project Manager, Visual Resources Advisor
Geoffrey Pool	Land Use, Visual, Recreation, and Socioeconomics
Kimberly Smith-Otero	Biological Resources
Barbara Murphy	Earth and Water Resources
Dr. J. Simon Bruder	Cultural Resources
Mitch Meek	Illustration
Scott Woods	Geographic Information System
Roy Baker	Geographic Information System

APPENDIX H
VISUAL RESOURCES

APPENDIX H - VISUAL RESOURCES

This appendix supports the visual resources inventory and assessment. Included are an overview of the methods and criteria, impact types and levels, and BLM Visual Resource Management (VRM) classifications.

METHODS AND CRITERIA

The goal of the visual assessment is to qualify and quantify potential visual impacts resulting from the introduction of the proposed project into the landscape, and to identify the alternative route that minimizes the degree of visual contrast of the proposed facilities with the aesthetic values of the surrounding landscape. This is accomplished by (1) characterizing the aesthetic values of the landscape along the alternative routes, (2) establishing the visibility of facilities to viewers and depicting the appearance of facilities to viewers, (3) assessing the visual contrast and impacts of facilities, and (4) identifying mitigation measures that will lower visual contrast where possible.

Visual contrast is a measure of the degree of perceived change that would occur in the landscape due to the construction and operation of the proposed project. Visual contrast typically results from (1) landform modifications which are necessary to upgrade and construct new access roads, tower pad sites, and substations; (2) removal of vegetation to construct roads, and maintain right-of-way and clearance zones associated with the conductors and towers; and (3) introduction of new structures in the landscape.

IMPACT TYPES AND LEVELS

Impacts to key observation points or viewers could range from low to high based on (1) visibility of the proposed project, including distance from viewers, screening potential, and terrain factors that may affect visibility; (2) scenic quality of the landscape; and (3) visual contrast with existing visual conditions.

Low impacts to viewers are anticipated for a majority of the area crossed by the alternative routes. Low impacts occur most often in the following situations: (1) areas seldom seen or in background viewing areas (e.g., portions of the project area, which are very sparsely populated and where alternatives avoid major travel routes); and (2) locations where the proposed project would be visible in the middleground (i.e., 0.5 to 3 miles) and background (i.e., beyond 3 miles) landscape settings modified by high-voltage transmission lines (e.g., locations throughout the northern and southern portions of the project area where alternatives would parallel the existing 69kV transmission line).

Moderate viewer impacts would occur most often in the following situations: (1) locations where the proposed project would cross previously undisturbed landscapes that are within middleground to background viewing areas (e.g., north of Ajo); (2) where the existing 69kV transmission line would be paralleled within foreground (i.e., 0 to 0.5 mile) views (e.g., along State Route 85 between Gila Bend and

Ajo); and (3) where foreground views of the proposed project would parallel existing pipeline corridors (e.g., south of the PDAI tailing ponds east of Ajo).

Areas of high viewer impact would only occur in areas where the proposed project would be located in a new corridor and would be visible in foreground or near middleground areas without the implementation of selectively recommended mitigation measures. No high impacts to viewers were identified for the proposed project.

It should be noted that visual impacts to sensitive viewpoints would not be significant with the implementation of selectively recommended mitigation measures, utilization of existing BLM designated utility corridors, and paralleling existing transmission line and/or pipeline facilities.

AGENCY VISUAL MANAGEMENT CLASSIFICATIONS

VRM classifications and definitions are provided on Table H-1.

TABLE H-1
BLM VISUAL RESOURCE MANAGEMENT CLASSES

Class I: The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II: The objective of this class is to retain the existing character of the landscape.The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III: The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV: The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.
Class V: No longer used.
Source: BLM Manual, Appendix 2, 01/17/86